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IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
WASHINGTON, D. C.

IONOSPHERIC DATA

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SYMBOLS AND TERMINOLOGY; CONVENTIONS FOR DETERMINING MEDIAN VALUES

Beginning with data reported for January 1949, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Fifth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Stockholm, 1948, and given in detail on pages 2 to 10 of the report CRPL-F53, "Ionospheric Data," issued January 1949.

For symbols and terminology used with data prior to January 1949, see report IRPL-C61, "Report of International Radio Propagation Conference, Washington, 17 April to 5 May, 1944," previous issues of the F series, in particular, IRPL-F5, CRPL-F24, F33, F50, and report CRPL-7-1, "Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records."

Following the recommendations of the Washington (1944) and Stockholm (1948) conferences, beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

In addition to the conventions for the determination of medians given in Appendix 5 of Document No. 293 E of the Stockholm conference, which are listed on pages 9 and 10 of CRPL-F53, the following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given on pages 2-9 of CRPL-F53 (Appendixes 1-4 of Document No. 293 E referred to above).

a. For all ionospheric characteristics:

Values missing because of A, B, C, F, L, M, N, Q, R, S, or T (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of f_oF_2 (and f_oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of $h'F_2$ (and $h'E$ near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

Values missing because of W are counted:

1. For foF2, as equal to or less than the median when it is apparent that h'F2 is unusually high; otherwise, values missing because of W are omitted from the median count.
2. For h'F2, as equal to or greater than the median.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of G (no Es reflections observed, the equipment functioning normally otherwise) are counted as equal to or less than the median foE, or equal to or less than the lower frequency count of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD - WIDE IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 36 and figures 1 to 72 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the
Commonwealth Observatory:

Brisbane, Australia
Canberra, Australia
Hobart, Tasmania

Australian Department of Supply and Shipping, Bureau of Mineral Resources,
Geology and Geophysics:
Watheroo, West Australia

Radio Wave Research Laboratory, Central Broadcasting Administration:
Chungking, China

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
Lindau/Harz, Germany

All India Radio (Government of India), New Delhi, India:
Bombay, India
Delhi, India
Madras, India
Tiruchirapalli, India

Electrical Communications Laboratory, Ministry of Communications:
Fukaura, Japan
Shibata, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

New Zealand Department of Scientific and Industrial Research:
Christchurch, New Zealand (Canterbury University College Observatory)
Rarotonga I.

Norwegian Defense Research Establishment, Kjeller per Lillestrom, Norway:
Oslo, Norway

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

National Bureau of Standards (Central Radio Propagation Laboratory):
 Baton Rouge, Louisiana (Louisiana State University)
 Boston, Massachusetts (Harvard University)
 Guam I.
 Hyancayo, Peru (Instituto Geofisico de Huancayo)
 Maui, Hawaii
 Palmyra I.
 San Francisco, California (Stanford University)
 San Juan, Puerto Rico (University of Puerto Rico)
 Trinidad, British West Indies
 Washington, D. C.
 White Sands, New Mexico

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

- a. Differences in scaling records when spread echoes are present.
- b. Omission of values when f_oF_2 is less than or equal to f_oF_1 , leading to erroneously high values of monthly averages or median values.
- c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of f_oE . Blank spaces at the beginning and end of columns of $h'F_1$, f_oF_1 , $h'E$, and f_oE are usually the result of diurnal variation in these characteristics. Complete absence of medians of $h'F_1$ and f_oF_1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

- a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.
- b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.
- c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

| <u>Month</u> | <u>Predicted Sunspot No.</u> | | | | |
|--------------|------------------------------|------|------|------|------|
| | 1949 | 1948 | 1947 | 1946 | 1945 |
| December | 108 | 114 | 126 | 85 | 38 |
| November | 112 | 115 | 124 | 83 | 36 |
| October | 114 | 116 | 119 | 81 | 23 |
| September | 115 | 117 | 121 | 79 | 22 |
| August | 111 | 123 | 122 | 77 | 20 |
| July | 108 | 125 | 116 | 73 | |
| June | 108 | 129 | 112 | 67 | |
| May | 108 | 130 | 109 | 67 | |
| April | 109 | 133 | 107 | 62 | |
| March | 111 | 133 | 105 | 51 | |
| February | 113 | 133 | 90 | 46 | |
| January | 112 | 130 | 88 | 42 | |

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in tables 37 to 48 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols and Terminology; Conventions for Determining Median Values." Beginning with September 1949, the data are taken at a new location, Ft. Belvoir, Virginia.

IONOSPHERE DISTURBANCES

Table 49 presents ionosphere character figures for Washington, D. C., during December 1949, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

Table 50 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at Ft. Belvoir, Virginia, during December 1949.

Table 51 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England, receiving stations of Cable and Wireless, Ltd., for December 9 and 12, 1949.

Table 52 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Barbados, British West Indies, receiving station of the RCA Communications, Inc., for various days in October and November 1949.

Table 53 lists for the stations whose locations are given the sudden ionosphere disturbances reported by the Institut für Ionosphärenforschung, as observed at Lindau, Harz, Germany, during October 1949.

Table 54 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GMT, November 1949, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner basically the same as that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued February 1, 1946. The scale conversions for each report are revised for use with the data beginning January 1948, and statistical weighting replaces what was, in effect, subjective weighting. Separate master distribution curves of the type described in IRPL-R31 were derived for the part of 1946 covered by each report; data received only since 1946 are compared with the master curve for the period of the available data. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal of the departure from linearity. The half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic, or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half day in either of the two general areas.

SOLAR CORONAL INTENSITIES OBSERVED AT CLIMAX, COLORADO

In tables 55a and 55b are listed the intensities of the green (5303A) line of the emission spectrum of the solar corona as observed during December 1949 and for October 27, 28, and 31, 1949, by the High Altitude Observatory of Harvard University and the University of Colorado at Climax, Colorado, for east and west limbs, respectively, at 5-degree intervals of position angle north and south of the solar equator at the limb. Beginning January 11, 1949, the actual measurements are on solar rotation coordinates rather than astronomical coordinates; thus values of the correction P given in previous coronal tables are omitted. The time of observation is given to the nearest tenth of a day, GCT. The tables of coronal observations in CRPL-F29 to F41 listed the data on astronomical coordinates; the present format on solar rotation coordinates is in conformity with the tables of CRPL-1-4, "Observations of the Solar Corona at Climax, 1944-46."

Tables 56a and 56b give similarly the intensities of the first red (6374A) coronal line; tables 57a and 57b list the intensities of the second red (6704A) coronal line. The following symbols are used in tables 55, 56, and 57: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

Table 58 gives details of the Climax observations from July 1949 through December 1949. The first column lists the Greenwich date of observations; the next six columns give the threshold or lowest observable intensity of 5303A for each spectrum plate centered at astronomical position angles 45° , 90° , 135° , 225° , 270° , and 315° , respectively; the last two columns indicate the observer and the person responsible for the intensity estimates of the observation. This table is a continuation of table 1 of CRPL-1-4, and appears in the F series regularly at intervals of six months.

AMERICAN AND ZÜRICH PROVISIONAL RELATIVE SUNSPOT NUMBERS

Table 59 presents the daily American relative sunspot number, R_A , computed from observations communicated to CRPL by observers in America and abroad. Beginning with the observations for January 1948, a new method of reduction of observations is employed such that each observer is assigned a scale-determining "observatory coefficient," ultimately referred to Zürich observations in a standard period, December 1944 to September 1945, and a statistical weight, the reciprocal of the variance of the observatory coefficient. The daily numbers listed in the table are the weighted means of all observations received for each day. Details of the procedure are given in the Publication of the Astronomical Society of the Pacific, issued February 1949, in an article entitled "Reduction of the Sunspot-Number Observations." The American relative sunspot number computed in this way is designated R_A . It is noted that a number of observatories abroad, including the Zürich observatory, are included in R_A . The scale of R_A was referred specifically to that of the Zürich relative sunspot numbers in the standard comparison period; since that time, R_A is influenced by the Zürich observations only in that Zürich proves to be a consistent observer and receives a high statistical weight. In addition, this table lists the daily provisional Zürich sunspot numbers, R_Z .

PRELIMINARY MEAN K-INDICES, PRELIMINARY INTERNATIONAL CHARACTER FIGURES, MAGNETICALLY SELECTED DAYS, PLANETARY INDICES

Table 60 gives preliminary mean K-indices, K_w , and international character figures, C , and also final magnetically selected days from magnetic observatories widely distributed over the Earth's surface. The selected days are preferentially derived using the four magnetic criteria: C-figures, sums of the eight daily mean K-indices, the greatest daily K-index, and the sums of the squares of the eight daily K-indices.

Table 61 gives geomagnetic planetary three-hour-range indices, Kp, for 1943 and 1944. It should be noted that Kp is without reduction because of the (rare) solar flare effects. Kp is designed to measure solar particle-radiation by its magnetic effects at eleven observatories between geomagnetic latitudes 47 and 63 degrees. Complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948" published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. This bulletin has tables of Kp for 1945-48. Current tables of Kp appear in the Journal of Geophysical Research.

These tables have been furnished by the courtesy of the Committee on Characteristics of Magnetic Disturbance, ATME, IUGG. The majority of the world's magnetic observatories have cooperated in supplying the data. The Meteorological Office, De Bilt, Holland, has efficiently assembled and compiled the summary tables. The Chairman of the Committee has compiled Kp to supply the need for a homogeneous index of solar particle-activity to research workers in the ionospheric field. Tables of Kp will ultimately be available from January 1, 1937, the beginning date for serious ionospheric records.

ERRATA

1. CRPL-F64, p. 17, table 26: The latitude of Tiruchirapalli, India, should be 10.8°N instead of 12.8°N.
2. CRPL-F62, p. 37, table 71: The R_A for September 25, 1949, should have been 158. This makes the mean American relative sunspot number for September 1949, 186.9 instead of 183.7.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D. C. (38.7°N, 77.1°W) December 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-----|-----|-----------|
| 00 | 280 | (4.6) | | | | | | (2.9) |
| 01 | 280 | (4.7) | | | | | | (2.9) |
| 02 | 270 | (4.7) | | | | | | (2.9) |
| 03 | 260 | (4.6) | | | | | | 2.9 |
| 04 | 260 | (4.2) | | | | | | (2.9) |
| 05 | 260 | (3.9) | | | | | | (2.8) |
| 06 | 270 | (3.7) | | | | | | (2.9) |
| 07 | 240 | (4.6) | | | | | | (3.1) |
| 08 | 220 | (7.8) | | | 110 | 2.2 | | 3.3 |
| 09 | 220 | (10.2) | | | 110 | 2.6 | | 3.3 |
| 10 | 220 | 11.6 | --- | --- | 110 | 2.9 | | 3.2 |
| 11 | 230 | 12.4 | --- | --- | 110 | 3.1 | | 3.1 |
| 12 | 220 | 12.0 | --- | --- | 100 | 3.2 | | 3.1 |
| 13 | 220 | 12.2 | | | 100 | 3.2 | | 3.0 |
| 14 | 230 | (12.2) | | | 100 | 2.9 | | (3.0) |
| 15 | 220 | (12.0) | | | 100 | 2.7 | | (3.0) |
| 16 | 220 | (11.4) | | | 110 | 2.2 | | (3.1) |
| 17 | 210 | (10.7) | | | | | | (3.1) |
| 18 | 220 | (9.2) | | | | | | (3.1) |
| 19 | 220 | (7.6) | | | | | | (3.0) |
| 20 | 230 | (6.2) | | | | | | (3.0) |
| 21 | 250 | (5.4) | | | | | | (3.0) |
| 22 | 260 | (5.0) | | | | | | (3.0) |
| 23 | 270 | (4.8) | | | | | | (2.9) |

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Oslo, Norway (60.0°N, 11.0°E) November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|-------|---------|------|------|-----|-----|-----|-----------|
| 00 | (352) | 2.6 | | | | | | 2.6 |
| 01 | (350) | 2.6 | | | | | | (2.6) |
| 02 | (345) | 2.4 | | | | | | (2.4) |
| 03 | (350) | 2.6 | | | | | | (2.6) |
| 04 | (340) | 2.7 | | | | | | (2.6) |
| 06 | (300) | 2.8 | | | | | | (2.7) |
| 08 | (280) | 2.6 | | | | | | 2.7 |
| 07 | (260) | 3.8 | | | --- | --- | | (2.8) |
| 08 | 245 | 6.4 | | | 130 | --- | | 2.9 |
| 09 | 240 | 7.6 | | | 115 | 2.1 | 2.3 | 3.0 |
| 10 | 240 | (7.9.0) | | | 116 | 2.3 | | 3.0 |
| 11 | 240 | (7.9.0) | | | 116 | 2.6 | | (3.0) |
| 12 | 240 | (7.9.0) | | | 115 | 2.6 | | (3.2) |
| 13 | 235 | (7.9.0) | | | 116 | 2.6 | | (3.2) |
| 14 | 235 | (7.9.0) | | | 125 | 2.3 | | (3.2) |
| 15 | 220 | (7.9.0) | | | 138 | 2.0 | | --- |
| 16 | 228 | (7.9.0) | | | 150 | 1.9 | | --- |
| 17 | 230 | (8.5) | | | | | | (2.9) |
| 18 | 230 | 8.6 | | | | | | 3.0 |
| 19 | 240 | 4.9 | | | | | | 3.0 |
| 20 | 250 | 3.9 | | | | | | 3.0 |
| 21 | (290) | 3.2 | | | | | | 2.6 |
| 22 | (320) | 3.0 | | | | | | 2.6 |
| 23 | (350) | 2.8 | | | | | | (2.4) |

Time: 15.0°E.

Sweep: 1.6 Mc to 10.0 Mc in 5 minutes, automatic operation.

Table 3

Boston, Massachusetts (42.4°N, 71.3°W) November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-----|-----|-----------|
| 00 | 260 | 5.8 | | | | | | 2.7 |
| 01 | 265 | 5.8 | | | | | | 2.8 |
| 02 | 266 | 5.6 | | | | | | 2.7 |
| 03 | 265 | 5.2 | | | | | | 2.7 |
| 04 | 272 | 4.7 | | | | | | 2.7 |
| 05 | 275 | 4.3 | | | | | | 2.6 |
| 06 | 270 | 4.9 | | | --- | --- | | 2.7 |
| 07 | 250 | 7.7 | | | --- | --- | | 3.0 |
| 08 | 235 | 10.0 | | | --- | --- | | 3.1 |
| 09 | 235 | 11.3 | | | --- | --- | | 3.1 |
| 10 | 240 | 12.2 | | | --- | --- | | 3.0 |
| 11 | 240 | 12.7 | | | --- | --- | | 3.0 |
| 12 | 240 | 12.7 | | | --- | --- | | 3.0 |
| 13 | 240 | 13.0 | | | --- | --- | | 3.0 |
| 14 | 240 | 12.7 | | | | | | 3.0 |
| 15 | 235 | 12.6 | | | | | | 3.0 |
| 16 | 235 | 12.3 | | | | | | 3.0 |
| 17 | 238 | 11.3 | | | | | | 3.0 |
| 18 | 245 | 10.7 | | | | | | 2.9 |
| 19 | 245 | 9.3 | | | | | | 2.8 |
| 20 | 250 | 7.6 | | | | | | 2.7 |
| 21 | 265 | 7.1 | | | | | | 2.6 |
| 22 | 260 | 6.6 | | | | | | 2.7 |
| 23 | 266 | 6.0 | | | | | | 2.6 |

Time: 75.0°W.

Sweep: 0.8 Mc to 14.0 Mc in 1 minute.

Table 4

San Francisco, California (37.4°N, 122.2°W) November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-------|-----|-----------|
| 00 | 300 | 3.7 | | | | | 3.0 | 2.6 |
| 01 | 300 | 3.6 | | | | | 2.9 | 2.6 |
| 02 | 300 | 3.5 | | | | | 2.8 | 2.7 |
| 03 | 300 | 3.7 | | | | | 2.9 | 2.6 |
| 04 | 290 | 3.7 | | | | | 2.7 | 2.7 |
| 05 | 300 | 3.6 | | | | | 3.0 | 2.7 |
| 06 | 300 | 3.5 | | | | | 2.6 | 2.6 |
| 07 | 240 | 6.6 | | | 120 | 1.9 | 2.7 | 3.1 |
| 08 | 240 | 10.1 | --- | --- | 120 | 2.6 | 3.1 | 3.2 |
| 09 | 240 | 12.2 | --- | --- | 120 | 3.0 | 4.8 | 3.0 |
| 10 | 240 | 13.0 | 230 | --- | 120 | 3.2 | 4.2 | 3.0 |
| 11 | 240 | 13.6 | 230 | --- | 110 | 3.6 | 4.2 | 3.0 |
| 12 | --- | 13.6 | 230 | --- | 110 | 3.8 | 4.7 | 2.9 |
| 13 | --- | 14.0 | 240 | --- | 120 | (3.7) | 4.2 | 2.9 |
| 14 | 240 | 13.9 | 240 | --- | 110 | --- | --- | 2.8 |
| 16 | 240 | 13.5 | 230 | --- | 120 | 3.0 | --- | 2.9 |
| 16 | 240 | 13.2 | --- | --- | 120 | 2.5 | 2.7 | 3.0 |
| 17 | 236 | 12.0 | --- | --- | 110 | 1.7 | 2.8 | 3.0 |
| 18 | 220 | 9.8 | | | | | 2.8 | 3.0 |
| 19 | 220 | 7.6 | | | | | 2.7 | 3.1 |
| 20 | 230 | 5.7 | | | | | 2.6 | 3.0 |
| 21 | 250 | 4.5 | | | | | 2.7 | 3.0 |
| 22 | 260 | 3.9 | | | | | 2.8 | 2.9 |
| 23 | 300 | 3.6 | | | | | 2.8 | 2.8 |

Time: 120.0°W.

Sweep: 1.3 Mc to 18.0 Mc in 4 minutes.

Table 5

White Sands, New Mexico (32.3°N, 106.5°W) November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-------|-----|-----------|
| 00 | 280 | 4.2 | | | | | 2.6 | 2.7 |
| 01 | 280 | 4.0 | | | | | 2.5 | 2.6 |
| 02 | 280 | 4.1 | | | | | 2.4 | 2.6 |
| 03 | 280 | 4.1 | | | | | 2.8 | 2.7 |
| 04 | 260 | 4.0 | | | | | 2.4 | 2.6 |
| 06 | 280 | 3.8 | | | | | 2.4 | 2.8 |
| 06 | 275 | 4.2 | | | | | 2.6 | 2.6 |
| 07 | 240 | 8.1 | | | 120 | (2.1) | 2.8 | 3.1 |
| 08 | 230 | 10.8 | | | 110 | 2.7 | 3.8 | 3.1 |
| 09 | 235 | 12.6 | | | 110 | 3.2 | 4.2 | 3.0 |
| 10 | 230 | 13.1 | | | 110 | 3.4 | 4.2 | 3.0 |
| 11 | 230 | (13.4) | | | 110 | 3.6 | 4.6 | (2.9) |
| 12 | 230 | (13.6) | | | 110 | 3.7 | 4.8 | (2.8) |
| 13 | 230 | 13.5 | | | 110 | 3.6 | 4.6 | 2.8 |
| 14 | 235 | 13.3 | | | 110 | 3.4 | 4.6 | 2.8 |
| 16 | 240 | 13.0 | | | 105 | 3.0 | 4.2 | 2.8 |
| 16 | 230 | 12.6 | | | 110 | 2.6 | 3.9 | 2.8 |
| 17 | 220 | 11.8 | | | 110 | (1.8) | 3.3 | 2.9 |
| 18 | 220 | 10.1 | | | | | 3.2 | 2.9 |
| 19 | 220 | 8.4 | | | | | 2.4 | 2.9 |
| 20 | 220 | 6.5 | | | | | 2.6 | 2.9 |
| 21 | 230 | 5.2 | | | | | 2.8 | 2.9 |
| 22 | 250 | 4.8 | | | | | 2.6 | 2.8 |
| 23 | 260 | 4.2 | | | | | 2.7 | 2.7 |

Time: 106.0°W.

Sweep: 0.8 Mc to 14.0 Mc in 2 minutes.

Table 6

Baton Rouge, Louisiana (30.5°N, 91.2°W) November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-------|-----|-----------|
| 00 | 300 | 4.6 | | | | | | 2.8 |
| 01 | 310 | 4.6 | | | | | | 2.7 |
| 02 | 310 | 4.4 | | | | | | 2.7 |
| 03 | 320 | 4.3 | | | | | | 2.7 |
| 04 | 330 | 4.2 | | | | | | 2.7 |
| 05 | 330 | 4.3 | | | | | | 2.7 |
| 06 | 300 | 4.7 | | | | | | 2.8 |
| 07 | 270 | 8.6 | 240 | --- | | | | 3.1 |
| 08 | 260 | 11.2 | 240 | --- | 120 | 2.9 | | 3.0 |
| 09 | 270 | 12.0 | 240 | --- | 120 | 3.2 | | 3.0 |
| 10 | 290 | (12.6) | 240 | --- | 120 | 3.6 | | 3.0 |
| 11 | 300 | (12.7) | 230 | --- | 120 | (3.6) | | (2.9) |
| 12 | 300 | 12.8 | 240 | --- | 120 | (3.6) | | (2.8) |
| 13 | 300 | (12.7) | 250 | --- | 120 | (3.6) | | (2.7) |
| 14 | 300 | 12.6 | 260 | --- | 120 | (3.5) | | 2.7 |
| 16 | 300 | 12.3 | 250 | --- | 120 | 3.2 | | 2.8 |
| 16 | 280 | 12.0 | 250 | --- | 130 | 2.7 | | 2.8 |
| 17 | 270 | 11.6 | --- | --- | --- | --- | | 2.9 |
| 18 | 250 | 9.6 | | | | | | (2.9) |
| 19 | 270 | 7.6 | | | | | | 2.9 |
| 20 | 280 | 7.0 | | | | | | 2.9 |
| 21 | 290 | 6.0 | | | | | | 2.8 |
| 22 | 290 | 5.1 | | | | | | 2.8 |
| 23 | 300 | 4.8 | | | | | | 2.7 |

Time: 90.0°W.

Sweep: 2.12 Mc to 14.1 Mc in 6 minutes, automatic operation.

Table 7

Maui, Hawaii (20.8°N, 156.6°W)

November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|-------|-----|-----|-----|-----------|
| 00 | 240 | 7.3 | | | | | | 3.0 |
| 01 | 240 | 6.4 | | | | | | 3.0 |
| 02 | 240 | 5.1 | | | | | | 2.9 |
| 03 | 246 | 3.8 | | | | | | 2.5 |
| 04 | 300 | 3.2 | | | | | | 2.2 |
| 05 | 340 | 3.1 | | | | | | 2.3 |
| 06 | 330 | 3.6 | | | | | | 2.3 |
| 07 | 280 | 7.8 | | | 130 | 2.1 | | 2.9 |
| 08 | 260 | 11.2 | --- | --- | 120 | 2.8 | | 3.0 |
| 09 | 270 | 13.4 | 250 | --- | 110 | 3.3 | 3.9 | 3.0 |
| 10 | 280 | 14.2 | 240 | --- | 110 | 3.5 | | 2.9 |
| 11 | 310 | 14.6 | 230 | 6.3 | 110 | 3.7 | 4.2 | 2.7 |
| 12 | 330 | 15.4 | 230 | (5.6) | 110 | 3.8 | 4.4 | 2.7 |
| 13 | 340 | 16.2 | 240 | (6.8) | 110 | 3.6 | 4.6 | 2.7 |
| 14 | 340 | 16.6 | 250 | 6.7 | 110 | 3.6 | 4.6 | 2.7 |
| 15 | 310 | 16.4 | 250 | --- | 110 | 3.4 | 4.7 | 2.7 |
| 16 | 280 | 15.8 | 250 | --- | 110 | 3.0 | 4.3 | 2.7 |
| 17 | 250 | 15.0 | | | 115 | 2.4 | 4.5 | 2.8 |
| 18 | 230 | 14.3 | | | --- | --- | 4.1 | 2.9 |
| 19 | 220 | 12.6 | | | | | 4.2 | 2.9 |
| 20 | 230 | 11.5 | | | | | 2.7 | 2.8 |
| 21 | 250 | 11.0 | | | | | 2.4 | 2.8 |
| 22 | 240 | 10.2 | | | | | | 2.8 |
| 23 | 240 | 8.9 | | | | | | 3.0 |

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 9

Guam I. (13.6°N, 144.9°E)

November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-----|-----|-----------|
| 00 | 240 | 10.6 | | | | | 3.5 | 3.0 |
| 01 | 230 | 9.7 | | | | | 4.0 | 3.1 |
| 02 | 230 | 8.5 | | | | | 3.6 | 3.2 |
| 03 | 230 | 6.9 | | | | | 3.6 | 3.1 |
| 04 | 240 | 5.7 | | | | | 3.4 | 3.0 |
| 05 | 240 | 4.9 | | | | | 3.8 | 3.0 |
| 06 | 250 | 4.8 | | | | | 3.8 | 2.8 |
| 07 | 260 | 8.7 | | | 130 | 2.3 | 4.7 | 3.1 |
| 08 | 250 | 11.2 | | | 110 | 3.0 | 6.1 | 3.0 |
| 09 | 250 | 13.2 | 230 | --- | 110 | 3.3 | 6.9 | 2.9 |
| 10 | 250 | (13.6) | 220 | --- | 110 | 3.7 | 5.8 | 2.7 |
| 11 | 250 | (13.2) | 220 | 4.6 | 110 | 3.8 | 6.6 | (2.4) |
| 12 | 255 | (12.1) | 200 | 4.6 | 110 | 3.8 | 6.8 | (2.3) |
| 13 | 250 | 11.8 | 220 | 4.8 | 110 | 3.8 | 6.4 | (2.3) |
| 14 | 260 | 12.0 | 230 | 4.3 | 110 | 3.7 | 5.8 | 2.3 |
| 15 | 250 | (12.4) | 240 | --- | 110 | 3.4 | 5.2 | (2.4) |
| 16 | 250 | 13.0 | --- | --- | 110 | 3.0 | 5.8 | (2.5) |
| 17 | 270 | (13.2) | | | 120 | 2.4 | 6.6 | (2.5) |
| 18 | 285 | 13.3 | | | | | 5.1 | 2.5 |
| 19 | 310 | 12.9 | | | | | 2.9 | (2.4) |
| 20 | 295 | 12.4 | | | | | 3.0 | (2.4) |
| 21 | 265 | 12.2 | | | | | 4.3 | (2.5) |
| 22 | 250 | 11.6 | | | | | 4.6 | (2.7) |
| 23 | 240 | 11.4 | | | | | 3.8 | 2.9 |

Time: 150.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 11

Palmyra I. (5.9°N, 162.1°W)

November 1949*

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-----|-----|-----------|
| 00 | 280 | (12.8) | | | | | 3.2 | (3.0) |
| 01 | 280 | (9.8) | | | | | 3.1 | (2.8) |
| 02 | 280 | (8.9) | | | | | 2.7 | (2.8) |
| 03 | 270 | (8.3) | | | | | 2.6 | (2.9) |
| 04 | 260 | (6.6) | | | | | 3.0 | (2.9) |
| 05 | 250 | (6.1) | | | | | 2.8 | (2.9) |
| 06 | 270 | 6.8 | | | 130 | 1.5 | 2.6 | 2.8 |
| 07 | 280 | (10.0) | | | 140 | 2.7 | | (2.8) |
| 08 | 260 | 13.0 | | | 130 | 3.3 | | 2.6 |
| 09 | 250 | >13.0 | | | 130 | --- | | (2.4) |
| 10 | 260 | 13.0 | 240 | --- | 130 | --- | | 2.5 |
| 11 | 280 | 12.2 | 240 | --- | 130 | --- | | 2.4 |
| 12 | 280 | 11.9 | 230 | 6.3 | 130 | --- | | 2.4 |
| 13 | 270 | 12.6 | 230 | 5.2 | 130 | --- | | 2.3 |
| 14 | 270 | 13.1 | 230 | --- | 130 | --- | | 2.4 |
| 15 | 260 | 13.9 | 250 | --- | 130 | 3.7 | | 2.6 |
| 16 | 270 | 14.8 | --- | --- | 130 | 3.4 | | 2.7 |
| 17 | 280 | 14.9 | | | 130 | 2.8 | | 2.8 |
| 18 | 300 | 14.9 | | | 130 | 1.8 | 2.8 | 2.7 |
| 19 | 350 | 14.7 | | | | | | 2.6 |
| 20 | 350 | (14.3) | | | | | 2.1 | (2.5) |
| 21 | 320 | (14.0) | | | | | 2.4 | (2.5) |
| 22 | 290 | 14.4 | | | | | 2.9 | (2.9) |
| 23 | 270 | (14.6) | | | | | 3.1 | (3.2) |

Time: 157.5°W.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 36 seconds, automatic operation;
13.0 Mc to 18.0 Mc, manual operation.

*Station ceased operation on November 26.

Table 8

San Juan, Puerto Rico (18.4°N, 66.1°W)

November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|-------|--------|------|------|-----|-----|-----|-----------|
| 00 | 260 | (7.3) | | | | | | 2.9 |
| 01 | 250 | 6.6 | | | | | | 3.0 |
| 02 | 240 | 5.4 | | | | | | 3.1 |
| 03 | --- | 3.8 | | | | | | 2.9 |
| 04 | --- | 3.7 | | | | | | 2.6 |
| 05 | --- | 3.9 | | | | | | 2.7 |
| 06 | (290) | 4.6 | | | | | | 2.8 |
| 07 | 250 | 9.0 | | 3.5 | | | | 3.0 |
| 08 | 250 | 11.5 | | --- | | 3.0 | | 3.0 |
| 09 | 260 | 13.0 | | --- | | 3.4 | | 3.0 |
| 10 | 260 | 13.2 | | --- | | 3.7 | | 3.0 |
| 11 | 260 | 13.0 | | --- | | --- | | 2.9 |
| 12 | 270 | 12.8 | | --- | | 3.8 | | 2.8 |
| 13 | 280 | (12.3) | | --- | | --- | | 2.8 |
| 14 | 290 | 12.2 | | --- | | 3.6 | | 2.7 |
| 15 | 270 | 12.3 | | --- | | 3.5 | | 2.7 |
| 16 | 270 | 12.0 | | --- | | 3.2 | | 2.7 |
| 17 | 250 | 11.4 | | 3.6 | | --- | | 2.8 |
| 18 | 250 | 10.8 | | | | | | 2.8 |
| 19 | 260 | 9.5 | | | | | | 2.8 |
| 20 | 265 | 8.8 | | | | | | 2.8 |
| 21 | 270 | 8.6 | | | | | | 2.8 |
| 22 | 265 | 7.6 | | | | | | 2.8 |
| 23 | 260 | 7.5 | | | | | | 2.8 |

Time: 60.0°W.

Sweep: 2.8 Mc to 13.0 Mc in 9 minutes, automatic operation;
supplemented by manual operation.

Table 10

Trinidad, Brit. West Indies (10.6°N, 61.2°W)

November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-----|-----|-----------|
| 00 | 230 | 8.7 | | | | | | 3.2 |
| 01 | 220 | 6.8 | | | | | | 3.3 |
| 02 | 220 | 4.9 | | | | | | 3.3 |
| 03 | 250 | 3.7 | | | | | | 3.0 |
| 04 | 280 | 3.7 | | | | | | 2.8 |
| 05 | 270 | 3.9 | | | | | | 3.0 |
| 06 | 250 | 6.1 | | | --- | --- | 2.1 | 3.1 |
| 07 | 230 | 10.0 | | | 120 | 2.6 | 3.2 | 3.3 |
| 08 | 240 | 12.4 | 220 | --- | 110 | 3.2 | 4.0 | 3.2 |
| 09 | 250 | 13.8 | 220 | 6.0 | 120 | 3.7 | 4.2 | 3.2 |
| 10 | 250 | 13.7 | 220 | 5.2 | 120 | 3.9 | 4.4 | 3.1 |
| 11 | 250 | 13.6 | 220 | 5.3 | 120 | 4.0 | 4.4 | 3.0 |
| 12 | 250 | 13.2 | 220 | 5.2 | 120 | 4.0 | 4.4 | 2.9 |
| 13 | 250 | 13.2 | 220 | 6.3 | 120 | 4.0 | 4.6 | 2.8 |
| 14 | 250 | 13.0 | 220 | 5.3 | 120 | 3.8 | 4.8 | 2.8 |
| 15 | 260 | 12.8 | 220 | 6.1 | 120 | 3.6 | 4.7 | 2.8 |
| 16 | 250 | 12.6 | 230 | 5.0 | 120 | 3.2 | 4.0 | 2.8 |
| 17 | 245 | 12.6 | | | 120 | 2.6 | 3.6 | 2.9 |
| 18 | 250 | 12.2 | | | | | 4.0 | 3.0 |
| 19 | 240 | 11.4 | | | | | 2.8 | 3.0 |
| 20 | 240 | 10.9 | | | | | 2.5 | 2.9 |
| 21 | 240 | 10.3 | | | | | 2.2 | 2.9 |
| 22 | 240 | 10.2 | | | | | | 3.0 |
| 23 | 220 | 9.0 | | | | | | 3.1 |

Time: 60.0°W.

Sweep: 1.5 Mc to 18.0 Mc, manual operation.

Table 12

Huancayo, Peru (12.0°S, 75.3°W)

November 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|--------|------|------|-----|-----|------|-----------|
| 00 | 340 | (10.0) | | | | | 2.7 | (2.8) |
| 01 | 280 | (9.3) | | | | | 3.0 | (2.9) |
| 02 | 240 | 8.6 | | | | | 3.2 | 3.0 |
| 03 | 240 | 7.2 | | | | | 2.8 | 3.1 |
| 04 | 230 | 6.6 | | | | | 2.9 | 3.2 |
| 05 | 260 | 6.5 | | | | | 3.2 | 2.9 |
| 06 | 260 | 8.8 | | | | 2.4 | 3.3 | 3.0 |
| 07 | 250 | 11.9 | | | | 3.0 | 8.4 | 2.9 |
| 08 | 240 | 13.5 | | | | 3.5 | 11.1 | 2.7 |
| 09 | 270 | 14.0 | 230 | 5.5 | | 3.8 | 11.9 | 2.4 |
| 10 | 270 | 14.2 | 220 | 6.4 | | 4.0 | 11.9 | 2.3 |
| 11 | 270 | 13.7 | 220 | 5.4 | | 4.0 | 12.0 | 2.2 |
| 12 | 260 | 13.9 | 220 | 5.4 | | 4.1 | 11.9 | 2.2 |
| 13 | 270 | 13.2 | 210 | 5.4 | | 4.0 | 11.9 | 2.2 |
| 14 | 280 | 13.0 | 220 | 5.4 | | 3.9 | 11.9 | 2.2 |
| 15 | 240 | 13.4 | 220 | --- | | 3.6 | 11.3 | 2.2 |
| 16 | 260 | 13.2 | --- | --- | | 3.2 | 10.8 | 2.1 |
| 17 | 270 | (12.6) | | | | 2.5 | 7.3 | 2.1 |
| 18 | 310 | 11.6 | | | | 1.4 | 3.2 | 2.1 |
| 19 | 400 | 10.8 | | | | | | 2.0 |
| 20 | 430 | 10.4 | | | | | | (2.0) |
| 21 | 420 | 10.6 | | | | | | 2.1 |
| 22 | 400 | (9.8) | | | | | | (2.6) |
| 23 | 360 | (10.1) | | | | | 2.7 | (2.6) |

Time: 75.0°W.

Sweep: 16.0 Mc to 0.6 Mc in 15 minutes, automatic operation.

Table 13

| Lindau/Harz, Germany (51.6°N, 10.1°E) | | | | | | | |
|---------------------------------------|------|------|------|------|-----|-----|---------------|
| October 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 310 | 4.2 | | | | | 2.4 |
| 01 | 320 | 4.1 | | | | | 2.4 |
| 02 | 310 | 3.8 | | | | | 2.4 |
| 03 | 320 | 3.7 | | | | | 2.2 |
| 04 | 300 | 3.4 | | | | | 2.6 |
| 05 | 290 | 3.2 | | | | | 2.4 |
| 06 | 270 | 3.6 | | | | | 2.0 |
| 07 | 240 | 5.9 | | | 130 | 1.8 | 2.0 |
| 08 | 230 | 8.3 | | | 110 | 2.3 | |
| 09 | 230 | 9.6 | | | 100 | 2.6 | 3.5 |
| 10 | 220 | 10.4 | | | 100 | 3.0 | 4.3 |
| 11 | 220 | 11.0 | 220 | 4.5 | 100 | 3.1 | 4.2 |
| 12 | 230 | 11.2 | 210 | | 100 | 3.2 | 4.2 |
| 13 | 220 | 11.4 | 220 | 5.4 | 100 | 3.1 | |
| 14 | 230 | 11.3 | | | 100 | 3.1 | 3.8 |
| 15 | 230 | 11.4 | | | 100 | 2.8 | |
| 16 | 230 | 11.2 | | | 100 | 2.4 | 3.5 |
| 17 | 220 | 10.1 | | | 110 | 2.0 | 3.5 |
| 18 | 230 | 9.3 | | | | | 3.2 |
| 19 | 230 | 7.8 | | | | | 2.6 |
| 20 | 230 | 6.0 | | | | | 2.9 |
| 21 | 260 | 5.2 | | | | | 2.3 |
| 22 | 290 | 4.8 | | | | | 2.0 |
| 23 | 300 | 4.4 | | | | | 2.0 |

Time: 16.0°E.

Sweep: 1.4 Mc to 16.0 Mc in 8 minutes.

Table 14

| Palmyra I. (5.9°N, 162.1°W) | | | | | | | |
|-----------------------------|-------|--------|-------|------|-----|-----|---------------|
| October 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 250 | >13.0 | | | | | 1.8 3.0 |
| 01 | 250 | >13.0 | | | | | 2.1 2.9 |
| 02 | 250 | (9.0) | | | | | 2.0 (2.8) |
| 03 | 250 | 8.3 | | | | | 2.0 2.8 |
| 04 | 270 | (7.8) | | | | | 2.5 (2.8) |
| 05 | 260 | 6.2 | | | | | 2.6 3.0 |
| 06 | 290 | 8.7 | | | 120 | 1.5 | 1.7 2.8 |
| 07 | 270 | (9.5) | | | 120 | 2.7 | (2.7) |
| 08 | 250 | (12.6) | | | 130 | 3.4 | 2.6 |
| 09 | 250 | 12.7 | 230 | | 130 | | (2.6) |
| 10 | (270) | 12.7 | (240) | | 130 | | 2.6 |
| 11 | (285) | 12.8 | 245 | | 130 | | 2.5 |
| 12 | (300) | 13.0 | (250) | | 130 | | 2.5 |
| 13 | (286) | 13.5 | 250 | | 130 | | 2.5 |
| 14 | (280) | 13.8 | (240) | | 130 | | 2.5 |
| 15 | 270 | 14.1 | (250) | | 130 | | 2.6 |
| 16 | (280) | 14.6 | 250 | | 130 | 3.4 | 2.5 |
| 17 | 275 | 14.9 | 260 | | 120 | 2.7 | 2.6 |
| 18 | 300 | 14.8 | | | 120 | | 2.5 |
| 19 | 360 | 13.8 | | | | | 2.4 2.4 |
| 20 | 360 | (13.8) | | | | | (2.4) |
| 21 | 320 | (13.6) | | | | | 2.1 (2.6) |
| 22 | 270 | (14.0) | | | | | 1.7 (3.1) |
| 23 | 260 | >13.0 | | | | | 2.3 |

Time: 157.60W.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 36 seconds, automatic operation; 13.0 Mc to 18.0 Mc, manual operation.

Table 15

| Johannesburg, Union of S. Africa (26.2°S, 28.0°E) | | | | | | | |
|---|-------|------|------|------|-----|-------|---------------|
| October 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | (260) | 6.7 | | | | | 2.8 |
| 01 | (250) | 6.3 | | | | | 2.7 |
| 02 | (265) | 5.7 | | | | | 2.8 |
| 03 | (260) | 6.3 | | | | | 2.8 |
| 04 | (250) | 4.8 | | | | | 2.8 |
| 05 | (270) | 4.8 | | | | | 2.8 |
| 06 | 240 | 7.4 | | | 115 | (2.1) | 3.1 |
| 07 | 240 | 9.0 | 230 | | 110 | (2.9) | 3.1 |
| 08 | 240 | 11.1 | 230 | 4.0 | 110 | (3.3) | 3.0 |
| 09 | 250 | 11.7 | 220 | | 110 | (3.7) | 2.9 |
| 10 | 260 | 12.1 | 210 | | 110 | (3.9) | 2.8 |
| 11 | 270 | 12.6 | 210 | | 110 | | 2.8 |
| 12 | 265 | 12.8 | 210 | | 110 | | 2.7 |
| 13 | 305 | 12.8 | 210 | | 110 | (4.0) | 2.7 |
| 14 | 320 | 12.9 | 220 | | 110 | (3.9) | 4.1 |
| 15 | 300 | 12.6 | 230 | | 110 | (3.7) | 4.1 |
| 16 | (280) | 12.4 | 240 | | 110 | (3.3) | 3.7 |
| 17 | 250 | 12.3 | 240 | | 120 | (2.7) | 3.2 |
| 18 | 250 | 12.2 | | | | | 2.2 |
| 19 | 240 | 11.4 | | | | | 1.8 |
| 20 | (235) | 10.2 | | | | | 1.8 |
| 21 | (240) | 9.1 | | | | | 2.9 |
| 22 | (260) | 8.1 | | | | | 2.8 |
| 23 | (260) | 7.2 | | | | | 2.8 |

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 16

| Watheroo, W. Australia (30.3°S, 116.9°E) | | | | | | | |
|--|------|------|------|------|-----|-----|---------------|
| October 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 280 | 6.9 | | | | | 3.1 2.7 |
| 01 | 270 | 6.6 | | | | | 2.9 2.7 |
| 02 | 270 | 6.1 | | | | | 3.0 2.6 |
| 03 | 290 | 6.6 | | | | | 2.9 2.5 |
| 04 | 300 | 5.2 | | | | | 2.9 2.6 |
| 05 | 300 | 5.4 | | | | | 2.8 2.5 |
| 06 | 270 | 6.4 | | | | | 2.1 2.3 |
| 07 | 250 | 7.6 | 260 | 4.2 | | 2.1 | 2.8 3.1 |
| 08 | 270 | 8.4 | 240 | 4.9 | | 3.3 | 3.5 2.8 |
| 09 | 290 | 9.2 | 230 | 5.3 | | 3.5 | 3.9 2.8 |
| 10 | 310 | 10.1 | 230 | 5.2 | | 3.6 | 4.2 2.7 |
| 11 | 330 | 10.8 | 230 | 5.5 | | 3.6 | 4.3 2.7 |
| 12 | 320 | 10.8 | 230 | 5.5 | | 3.6 | 4.2 2.7 |
| 13 | 340 | 11.3 | 230 | 6.5 | | 3.5 | 4.1 2.6 |
| 14 | 330 | 10.7 | 240 | 5.3 | | 3.4 | 4.0 2.6 |
| 15 | 320 | 10.8 | 240 | 5.1 | | 3.4 | 3.6 2.6 |
| 16 | 260 | 10.3 | 250 | 4.9 | | 3.2 | 3.4 2.6 |
| 17 | 260 | 10.2 | 250 | | | 2.6 | 3.0 2.7 |
| 18 | 260 | 10.0 | | | | 1.8 | 2.8 2.8 |
| 19 | 250 | 9.2 | | | | | 2.4 2.8 |
| 20 | 260 | 8.3 | | | | | 2.5 2.7 |
| 21 | 270 | 7.6 | | | | | 2.5 2.7 |
| 22 | 290 | 7.1 | | | | | 2.8 2.6 |
| 23 | 290 | 7.0 | | | | | 2.8 2.6 |

Time: 120.0°E.

Sweep: 16.0 Mc to 0.5 Mc in 16 minutes, automatic operation.

Table 17

| Capetown, Union of S. Africa (34.2°S, 18.3°E) | | | | | | | |
|---|-------|------|------|------|-----|-------|---------------|
| October 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 280 | 6.0 | | | | | 1.8 2.8 |
| 01 | (280) | 5.5 | | | | | 2.1 2.7 |
| 02 | 280 | 5.3 | | | | | 1.8 2.7 |
| 03 | 280 | 5.0 | | | | | 2.0 2.7 |
| 04 | 290 | 4.7 | | | | | 2.7 |
| 05 | 270 | 4.6 | | | | | 2.6 |
| 06 | 280 | 6.6 | | | 1.7 | 2.4 | 2.8 |
| 07 | 240 | 8.3 | | | 110 | 2.4 | 3.1 |
| 08 | 240 | 10.1 | 240 | | 110 | 3.1 | 3.4 |
| 09 | 250 | 11.1 | 230 | | 110 | 3.5 | 2.9 |
| 10 | 260 | 12.0 | 230 | | 110 | (3.7) | 3.9 |
| 11 | 280 | 12.5 | 220 | | 110 | | 2.7 |
| 12 | 280 | 12.8 | 220 | 6.2 | 110 | | 2.7 |
| 13 | 300 | 13.1 | 220 | 5.2 | 110 | | 2.7 |
| 14 | 320 | 13.2 | 220 | 6.2 | 110 | | 2.6 |
| 15 | 310 | 13.0 | 240 | 4.9 | 110 | (3.7) | 2.7 |
| 16 | 290 | 12.9 | 240 | | 110 | 3.5 | 2.7 |
| 17 | 250 | 12.4 | 240 | | 110 | 3.1 | 3.6 |
| 18 | 250 | 12.2 | | | 120 | 2.5 | 3.0 |
| 19 | 240 | 11.8 | | | 1.8 | 2.2 | 2.9 |
| 20 | 230 | 10.6 | | | | 2.2 | 2.9 |
| 21 | 230 | 8.8 | | | | 2.2 | 2.9 |
| 22 | 250 | 7.6 | | | | 2.1 | 2.9 |
| 23 | 260 | 6.6 | | | | 1.8 | 2.8 |

Time: 30.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 18

| Wakkanai, Japan (45.4°N, 141.7°E) | | | | | | | |
|-----------------------------------|------|-------|------|------|-----|-----|---------------|
| September 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 300 | 6.8 | | | | | 1.8 2.6 |
| 01 | 300 | 6.6 | | | | | 1.6 2.6 |
| 02 | 290 | 6.4 | | | | | 1.8 2.6 |
| 03 | 290 | 5.9 | | | | | 1.8 2.6 |
| 04 | 290 | 5.9 | | | | | 1.8 2.6 |
| 05 | 290 | 6.4 | | | 100 | 1.2 | 1.7 2.7 |
| 06 | 270 | 7.8 | 230 | | 100 | 2.2 | 2.5 2.9 |
| 07 | 240 | 9.4 | 230 | | 100 | 2.8 | 3.2 (3.0) |
| 08 | 250 | 9.4 | 230 | | 100 | 3.2 | 3.4 (3.1) |
| 09 | 260 | 9.6 | 220 | | 100 | 3.5 | 4.0 3.1 |
| 10 | 260 | 9.7 | 210 | | 100 | | 3.9 3.0 |
| 11 | 280 | 9.5 | 220 | | 100 | | 4.3 (2.9) |
| 12 | 280 | 9.7 | 220 | 5.0 | 100 | 3.7 | (2.9) |
| 13 | 290 | (9.2) | 230 | 5.6 | 100 | | (3.0) |
| 14 | 290 | (8.9) | 220 | | 100 | 3.6 | (2.9) |
| 15 | 280 | 9.1 | 220 | 4.7 | 100 | 3.4 | 3.5 3.0 |
| 16 | 260 | 9.0 | 240 | 4.4 | 100 | 2.9 | 3.3 3.0 |
| 17 | 260 | (8.8) | | | 100 | 2.3 | 3.0 (3.0) |
| 18 | 260 | (8.8) | | | 100 | 1.7 | 2.7 (3.0) |
| 19 | 260 | 7.8 | | | | | 3.2 (3.0) |
| 20 | 270 | 7.8 | | | | | 2.8 2.8 |
| 21 | 250 | 7.4 | | | | | 2.5 2.7 |
| 22 | 280 | 6.8 | | | | | 2.2 2.6 |
| 23 | 300 | 6.8 | | | | | 1.7 2.6 |

Time: 135.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 16 minutes, manual operation.

Fukaura, Japan (40.6°N, 139.9°E) Table 19

| | | September 1949 | | | | | |
|------|------|----------------|------|------|-----|-----|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 300 | 6.6 | | | | | 2.3 2.7 |
| 01 | 300 | 6.5 | | | | | 2.0 2.7 |
| 02 | 290 | 6.4 | | | | | 1.8 2.7 |
| 03 | 280 | 6.0 | | | | | 2.7 2.7 |
| 04 | 280 | 5.8 | | | | | 2.8 2.8 |
| 05 | 300 | 6.0 | | | | | 1.8 2.7 |
| 06 | 250 | 8.4 | 230 | --- | 120 | 2.2 | 2.1 3.1 |
| 07 | 240 | 9.7 | --- | --- | 110 | 2.7 | 3.2 3.1 |
| 08 | 250 | 10.2 | --- | --- | 110 | 3.2 | 4.2 3.2 |
| 09 | 260 | 9.8 | 210 | --- | 110 | --- | (5.0) 3.1 |
| 10 | 270 | 9.9 | 220 | --- | 120 | --- | (4.9) 3.0 |
| 11 | 270 | 10.0 | 220 | --- | --- | --- | (5.3) 2.9 |
| 12 | 280 | 10.1 | 220 | --- | --- | --- | (5.3) 2.9 |
| 13 | 290 | 10.2 | 240 | --- | --- | --- | (5.2) 2.9 |
| 14 | 290 | 10.0 | 240 | --- | 110 | --- | 2.9 2.9 |
| 15 | 290 | 9.8 | 230 | --- | 110 | --- | (5.0) 2.9 |
| 16 | 260 | 9.4 | 240 | --- | 110 | 3.0 | (3.3) 3.0 |
| 17 | 250 | 9.6 | --- | --- | 110 | 2.5 | 3.4 3.0 |
| 18 | 240 | 9.6 | --- | --- | --- | --- | 3.1 3.0 |
| 19 | 240 | 8.4 | | | | | 3.0 3.0 |
| 20 | 260 | 7.8 | | | | | 4.1 3.0 |
| 21 | 270 | 7.4 | | | | | 3.0 2.8 |
| 22 | 280 | 7.0 | | | | | 3.0 2.8 |
| 23 | 290 | 6.8 | | | | | 2.2 2.8 |

Time: 135.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 20

| | | September 1949 | | | | | |
|------|------|----------------|------|------|-----|-----|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 270 | 6.7 | | | | | 2.4 2.9 |
| 01 | 270 | 6.4 | | | | | 2.2 2.9 |
| 02 | 260 | 6.4 | | | | | 2.0 2.9 |
| 03 | 240 | 6.0 | | | | | 2.4 3.0 |
| 04 | 250 | 5.7 | | | | | 2.6 2.8 |
| 05 | 270 | 5.9 | | | | | 2.6 2.9 |
| 06 | 220 | 8.5 | --- | --- | 100 | 2.1 | 2.9 3.2 |
| 07 | 210 | 10.6 | --- | --- | 100 | 2.8 | 3.2 3.3 |
| 08 | 210 | 10.8 | 200 | --- | 100 | 3.3 | 3.7 3.3 |
| 09 | 210 | 10.7 | 200 | --- | 100 | 3.5 | 4.9 3.2 |
| 10 | 240 | 10.8 | 200 | --- | 100 | 3.7 | 4.8 3.1 |
| 11 | 260 | 11.2 | 200 | --- | 100 | --- | 5.2 3.0 |
| 12 | 280 | 11.4 | 200 | --- | 100 | --- | 4.9 3.0 |
| 13 | 280 | 11.7 | 200 | --- | 100 | --- | 4.9 3.0 |
| 14 | 270 | 11.6 | 200 | --- | 100 | --- | 4.7 3.0 |
| 15 | 260 | 11.4 | 210 | --- | 100 | 3.5 | 4.2 3.0 |
| 16 | 240 | 10.6 | 220 | --- | 100 | 3.1 | 4.1 3.1 |
| 17 | 230 | 10.7 | --- | --- | 100 | 2.4 | 3.8 3.1 |
| 18 | 220 | 10.4 | 220 | --- | --- | --- | 3.3 3.2 |
| 19 | 220 | 9.0 | | | | | 3.4 3.2 |
| 20 | 220 | 7.4 | | | | | 3.5 3.1 |
| 21 | 240 | 7.1 | | | | | 3.9 3.0 |
| 22 | 250 | 7.0 | | | | | 3.0 2.9 |
| 23 | 260 | 7.0 | | | | | 3.0 2.9 |

Time: 135.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Tokyo, Japan (35.7°N, 139.5°E) Table 21

| | | September 1949 | | | | | |
|------|------|----------------|------|------|-----|-----|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 250 | 6.7 | | | | | 2.7 3.0 |
| 01 | 250 | 6.6 | | | | | 2.7 2.9 |
| 02 | 250 | 6.5 | | | | | 2.6 3.0 |
| 03 | 240 | 6.1 | | | | | 2.2 3.0 |
| 04 | 230 | 5.7 | | | | | 1.8 2.9 |
| 05 | 250 | 5.9 | --- | --- | --- | --- | 1.4 2.9 |
| 06 | 220 | 8.7 | --- | --- | 100 | 2.2 | 2.9 3.4 |
| 07 | 210 | 10.9 | 210 | --- | 100 | 2.9 | 3.8 3.4 |
| 08 | 200 | 10.8 | --- | --- | 100 | 3.3 | 3.9 3.4 |
| 09 | 210 | 10.4 | 200 | --- | 100 | 3.4 | 4.6 3.3 |
| 10 | 230 | 10.7 | 200 | --- | 100 | 3.6 | 4.9 3.0 |
| 11 | 260 | 11.7 | 200 | --- | 100 | --- | 5.2 3.1 |
| 12 | 270 | 12.1 | 210 | --- | 100 | --- | 5.2 3.0 |
| 13 | 250 | 12.2 | 210 | --- | 100 | --- | 4.4 3.1 |
| 14 | 260 | 12.2 | 210 | --- | 100 | --- | 4.5 3.0 |
| 15 | 250 | 12.0 | 210 | --- | 100 | 3.6 | 4.0 3.1 |
| 16 | 220 | 11.4 | 210 | --- | 100 | 3.0 | 4.0 3.2 |
| 17 | 230 | 11.1 | 210 | --- | 100 | 2.5 | 3.8 3.2 |
| 18 | 210 | 10.2 | | | | | 3.6 3.4 |
| 19 | 210 | 9.2 | | | | | 4.2 3.3 |
| 20 | 220 | 8.0 | | | | | 3.0 3.1 |
| 21 | 230 | 7.6 | | | | | 3.4 3.0 |
| 22 | 240 | 7.3 | | | | | 3.2 3.0 |
| 23 | 250 | 7.0 | | | | | 3.0 2.9 |

Time: 135.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 22

| | | September 1949 | | | | | |
|------|------|----------------|------|------|-----|-------|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 280 | 7.9 | | | | | 3.0 2.8 |
| 01 | 280 | 7.7 | | | | | 2.8 2.9 |
| 02 | 290 | 7.3 | | | | | 2.2 2.9 |
| 03 | 250 | 7.0 | | | | | 2.2 3.0 |
| 04 | 260 | 6.2 | | | | | 3.0 3.0 |
| 05 | 270 | 5.6 | | | | | 2.9 2.9 |
| 06 | 270 | 6.8 | --- | --- | --- | (1.6) | 2.4 3.0 |
| 07 | 230 | 9.9 | --- | --- | 110 | (2.5) | 3.1 3.3 |
| 08 | 230 | 10.8 | 220 | --- | 100 | 3.2 | 4.0 3.3 |
| 09 | 230 | 10.8 | 220 | --- | 100 | 3.6 | 4.4 3.2 |
| 10 | 250 | 11.2 | 210 | --- | 110 | 3.6 | 4.6 3.0 |
| 11 | 260 | 11.6 | 210 | --- | 100 | --- | 4.8 2.9 |
| 12 | 280 | 12.2 | 210 | --- | 100 | --- | 4.8 2.8 |
| 13 | 290 | 13.2 | 220 | --- | 100 | --- | 4.8 2.8 |
| 14 | 280 | 13.4 | 220 | --- | --- | --- | 5.0 2.9 |
| 15 | 280 | 13.3 | 230 | --- | 100 | 3.6 | 4.7 (2.9) |
| 16 | 280 | 13.6 | 230 | --- | 100 | (3.4) | 4.4 2.9 |
| 17 | 260 | 12.9 | 230 | --- | 110 | 2.8 | 4.2 3.0 |
| 18 | 250 | 12.4 | 240 | --- | --- | --- | 3.8 3.1 |
| 19 | 230 | 11.3 | | | | | 3.9 3.2 |
| 20 | 240 | 9.9 | | | | | 3.4 2.9 |
| 21 | 250 | 8.7 | | | | | 3.8 2.8 |
| 22 | 270 | 8.5 | | | | | 3.2 2.8 |
| 23 | 270 | 8.2 | | | | | 2.8 2.9 |

Time: 135.0°E.

Sweep: 1.2 Mc to 18.5 Mc in 15 minutes, manual operation.

Chungking, China (29.4°N, 106.8°E) Table 23

| | | September 1949 | | | | | |
|------|------|----------------|------|------|-----|-----|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 270 | 9.4 | | | | | 2.4 2.7 |
| 01 | 260 | 9.1 | | | | | 2.4 2.8 |
| 02 | 240 | 8.4 | | | | | 2.9 2.9 |
| 03 | 230 | 6.2 | | | | | 2.8 2.8 |
| 04 | 240 | 5.2 | | | | | 2.7 2.7 |
| 05 | 270 | 5.2 | | | | | 2.6 2.6 |
| 06 | 240 | 7.8 | --- | --- | 100 | 2.0 | 3.5 3.0 |
| 07 | 220 | 10.5 | 210 | --- | 100 | 2.8 | 4.0 3.2 |
| 08 | 220 | 10.8 | 200 | --- | 110 | 3.2 | 4.6 3.2 |
| 09 | 240 | 11.2 | 200 | --- | 100 | 3.6 | 4.6 2.8 |
| 10 | 260 | 12.0 | 200 | --- | 100 | 3.8 | 4.8 2.7 |
| 11 | 290 | 13.3 | 200 | --- | --- | --- | 4.9 2.7 |
| 12 | 280 | 14.0 | 190 | 6.8 | 90 | 4.1 | 4.4 2.8 |
| 13 | 280 | 15.0 | 170 | --- | 90 | 4.2 | 4.5 2.7 |
| 14 | 285 | 16.0 | 180 | --- | 90 | 4.0 | 4.4 2.8 |
| 15 | 290 | 16.4 | 190 | --- | 100 | 3.7 | 4.0 2.6 |
| 16 | 270 | 16.9 | 200 | --- | 100 | 3.4 | 4.0 2.8 |
| 17 | 260 | 16.2 | 200 | --- | 90 | 2.6 | 3.8 2.9 |
| 18 | 220 | 15.5 | | | | | 3.9 2.9 |
| 19 | 205 | 15.0 | | | | | 3.2 2.8 |
| 20 | 200 | 13.5 | | | | | 2.6 2.8 |
| 21 | 220 | 11.8 | | | | | 2.8 2.7 |
| 22 | 240 | 11.2 | | | | | 2.5 2.7 |
| 23 | 255 | 10.2 | | | | | 2.6 2.6 |

Time: 105.0°E.

Sweep: 1.5 Mc to 20.0 Mc in 15 minutes, manual operation.

Table 24

| | | September 1949 | | | | | |
|------|-------|----------------|------|------|-----|-------|---------------|
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | (250) | 5.3 | | | | | 2.9 |
| 01 | (250) | 5.0 | | | | | 2.8 |
| 02 | (260) | 4.8 | | | | | 2.8 |
| 03 | (250) | 4.6 | | | | | 2.8 |
| 04 | (260) | 4.3 | | | | | 2.8 |
| 05 | (255) | 4.1 | | | | | 2.8 |
| 06 | 250 | 6.0 | | | --- | (1.8) | 3.0 |
| 07 | 230 | 8.9 | --- | --- | 110 | (2.6) | 3.3 |
| 08 | 240 | 10.3 | 230 | --- | 110 | (3.2) | 3.2 |
| 09 | 250 | 11.3 | 220 | --- | 110 | 3.6 | 3.1 |
| 10 | 260 | 11.6 | 220 | --- | 110 | (3.8) | 2.9 |
| 11 | 260 | 11.9 | 210 | --- | 110 | (3.9) | 2.9 |
| 12 | 280 | 12.0 | 210 | --- | 110 | (4.0) | 2.8 |
| 13 | 300 | 12.1 | 210 | --- | 110 | (4.0) | 2.8 |
| 14 | 295 | 12.1 | 210 | --- | 110 | (3.9) | 4.0 2.7 |
| 15 | 300 | 12.0 | 220 | --- | 110 | 3.7 | 3.9 2.7 |
| 16 | 265 | 11.8 | 230 | --- | 110 | 3.2 | 3.5 2.8 |
| 17 | 240 | 11.8 | | | 110 | (2.6) | 2.8 2.8 |
| 18 | 240 | 11.5 | | | --- | (1.8) | 2.9 |
| 19 | 230 | 10.9 | | | | | 2.0 2.9 |
| 20 | 230 | 9.6 | | | | | 1.5 3.0 |
| 21 | 230 | 8.3 | | | | | 3.0 3.0 |
| 22 | 240 | 7.5 | | | | | 3.0 3.0 |
| 23 | 240 | 6.2 | | | | | 3.0 3.0 |

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 25

| Watheroo, W. Australia (30.3°S, 115.9°E) | | | | | | | |
|--|------|------|------|------|-----|-----|---------------|
| September 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 275 | 6.1 | | | | | 2.6 2.7 |
| 01 | 280 | 5.9 | | | | | 2.6 2.7 |
| 02 | 270 | 5.7 | | | | | 2.7 2.8 |
| 03 | 260 | 5.3 | | | | | 2.5 2.7 |
| 04 | 280 | 4.8 | | | | | 2.6 2.6 |
| 05 | 290 | 4.6 | | | | | 2.5 2.6 |
| 06 | 265 | 5.6 | | | | 1.8 | 2.5 2.9 |
| 07 | 240 | 8.4 | | | | | 2.5 3.2 |
| 08 | 250 | 10.2 | 230 | 4.8 | | | 3.0 3.2 |
| 09 | 260 | 10.9 | 230 | 5.0 | | | 3.3 3.1 |
| 10 | 260 | 11.2 | 230 | 5.0 | | | 3.3 3.0 |
| 11 | 280 | 11.6 | 220 | 5.2 | | | 3.3 3.8 2.9 |
| 12 | 280 | 11.4 | 220 | 5.1 | | | 3.3 3.9 2.9 |
| 13 | 280 | 11.6 | 230 | 5.2 | | | 3.3 3.8 2.8 |
| 14 | 280 | 11.3 | 230 | 5.0 | | | 3.3 3.8 2.8 |
| 15 | 270 | 11.0 | 230 | 5.0 | | | 3.3 3.3 2.7 |
| 16 | 270 | 11.0 | 250 | 5.0 | | | 3.2 2.7 |
| 17 | 250 | 10.8 | | | | 2.5 | 2.8 2.7 |
| 18 | 250 | 10.3 | | | | 1.8 | 1.9 2.8 |
| 19 | 240 | 9.4 | | | | | 2.5 2.8 |
| 20 | 240 | 8.4 | | | | | 2.5 2.9 |
| 21 | 250 | 7.3 | | | | | 2.4 2.8 |
| 22 | 260 | 6.5 | | | | | 2.5 2.8 |
| 23 | 255 | 6.2 | | | | | 2.5 2.7 |

Time: 120.0°E.

Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 26

| Capetown, Union of S. Africa (34.2°S, 18.3°E) | | | | | | | |
|---|------|------|------|------|-----|-------|---------------|
| September 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 240 | 5.0 | | | | | 1.4 2.9 |
| 01 | 270 | 4.4 | | | | | 1.8 2.7 |
| 02 | 250 | 4.3 | | | | | 1.8 2.7 |
| 03 | 270 | 4.4 | | | | | 1.7 2.8 |
| 04 | 260 | 4.1 | | | | | 2.8 |
| 05 | 260 | 4.0 | | | | | 2.8 |
| 06 | 265 | 4.1 | | | | | 2.8 |
| 07 | 240 | 7.0 | | | | | 2.6 3.2 |
| 08 | 230 | 9.2 | --- | --- | 120 | 2.1 | 2.8 3.2 |
| 09 | 240 | 10.5 | 230 | --- | 110 | 3.2 | 3.1 |
| 10 | 250 | 11.2 | 230 | --- | 110 | 3.6 | 3.0 |
| 11 | 260 | 12.0 | 220 | --- | 110 | --- | 2.8 |
| 12 | 280 | 12.6 | 220 | --- | 110 | --- | 2.8 |
| 13 | 280 | 12.9 | 230 | 4.7 | 110 | --- | 2.7 |
| 14 | 290 | 12.8 | 230 | --- | 110 | --- | 2.7 |
| 15 | 285 | 12.8 | 230 | 5.0 | 110 | (3.7) | 3.8 2.7 |
| 16 | 280 | 12.6 | 230 | --- | 110 | 3.5 | 3.8 2.7 |
| 17 | 260 | 12.2 | 240 | --- | 110 | 3.0 | 3.6 2.8 |
| 18 | 250 | 12.0 | | | 120 | 2.4 | 2.7 2.9 |
| 19 | 230 | 11.4 | | | --- | 1.5 | 1.8 2.9 |
| 20 | 220 | 10.0 | | | | | 1.6 2.9 |
| 21 | 230 | 8.8 | | | | | 1.7 3.0 |
| 22 | 230 | 7.7 | | | | | 3.1 |
| 23 | 240 | 6.0 | | | | | 3.0 |

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 27

| Christchurch, New Zealand (43.5°S, 172.7°E) | | | | | | | |
|---|------|------|------|------|-----|-----|---------------|
| September 1949 | | | | | | | |
| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 270 | 6.5 | | | | | 2.7 2.7 |
| 01 | 270 | 6.1 | | | | | 2.3 2.7 |
| 02 | 270 | 5.8 | | | | | 2.6 2.7 |
| 03 | 260 | 5.6 | | | | | 2.4 2.7 |
| 04 | 270 | 5.0 | | | | | 2.6 2.7 |
| 05 | 270 | 4.7 | | | | | 2.2 2.7 |
| 06 | 270 | 5.2 | | | | 1.3 | 2.8 3.0 |
| 07 | 245 | 7.0 | | | | | 2.4 3.1 3.1 |
| 08 | 240 | 8.5 | --- | --- | | | 2.9 4.0 3.1 |
| 09 | 240 | 9.9 | 240 | 4.8 | | | 3.2 4.4 3.1 |
| 10 | 250 | 10.5 | 230 | 4.9 | | | 3.5 3.8 3.0 |
| 11 | 270 | 10.7 | 230 | 5.1 | | | 3.5 3.6 2.9 |
| 12 | 260 | 10.9 | 220 | 5.1 | | | 3.6 3.8 2.9 |
| 13 | 260 | 10.5 | 230 | 4.9 | | | 3.6 3.4 2.8 |
| 14 | 245 | 10.4 | 230 | 4.8 | | | 3.4 3.5 2.9 |
| 15 | 250 | 10.0 | 230 | 4.2 | | | 3.2 3.4 2.9 |
| 16 | 245 | 9.7 | 240 | 3.8 | | | 2.8 3.5 2.9 |
| 17 | 250 | 9.6 | --- | --- | | | 2.2 2.9 2.9 |
| 18 | 250 | 9.1 | | | | 1.4 | 2.8 2.8 |
| 19 | 250 | 8.1 | | | | | 2.3 2.7 |
| 20 | 260 | 7.8 | | | | | 2.4 2.7 |
| 21 | 270 | 7.4 | | | | | 2.4 2.6 |
| 22 | 270 | 7.0 | | | | | 2.6 2.7 |
| 23 | 280 | 6.8 | | | | | 2.4 2.6 |

Time: 172.5°E.

Sweep: 1.0 Mc to 13.0 Mc.

Table 28

| Delhi, India (28.6°N, 77.1°E) | | | | | | | |
|-------------------------------|-------|--------|------|------|-----|-----|---------------|
| August 1949 | | | | | | | |
| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | 420 | 7.7 | | | | | 2.6 |
| 01 | 420 | 7.2 | | | | | |
| 02 | --- | --- | | | | | |
| 03 | --- | --- | | | | | |
| 04 | (420) | 5.8 | | | | | 2.6 |
| 05 | 400 | 5.8 | | | | | |
| 06 | 360 | 7.1 | | | | | |
| 07 | 360 | 8.4 | | | | | |
| 08 | 360 | 9.1 | | | | | 2.8 |
| 09 | 400 | 9.8 | | | | | |
| 10 | 440 | 10.2 | | | | | |
| 11 | 480 | 11.0 | | | | | |
| 12 | (400) | (12.2) | | | | | 2.6 |
| 13 | --- | (12.2) | | | | | |
| 14 | --- | (12.2) | | | | | |
| 15 | --- | (12.2) | | | | | |
| 16 | --- | (12.1) | | | | | |
| 17 | --- | (11.8) | | | | | |
| 18 | --- | (11.5) | | | | | |
| 19 | (390) | (11.2) | | | | | |
| 20 | (380) | (10.0) | | | | | 2.6 |
| 21 | (400) | (9.1) | | | | | |
| 22 | 420 | 8.4 | | | | | 2.6 |
| 23 | 420 | 8.1 | | | | | |

Time: Local.

Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.

*Height at 0.83 foF2.

**Average values; other columns, median values.

Table 29

| Bombay, India (19.0°N, 73.0°E) | | | | | | | |
|--------------------------------|-------|--------|------|------|-----|-----|---------------|
| August 1949 | | | | | | | |
| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | | | | | | | |
| 01 | | | | | | | |
| 02 | | | | | | | |
| 03 | | | | | | | |
| 04 | | | | | | | |
| 05 | | | | | | | |
| 06 | | | | | | | |
| 07 | 330 | 7.9 | | | | | |
| 08 | --- | --- | | | | | |
| 09 | 480 | 9.5 | | | | | |
| 10 | 480 | 11.0 | | | | | |
| 11 | 540 | 11.8 | | | | | |
| 12 | 510 | (12.3) | | | | | 2.5 |
| 13 | --- | --- | | | | | |
| 14 | --- | (13.0) | | | | | |
| 15 | --- | (13.3) | | | | | |
| 16 | --- | (13.6) | | | | | |
| 17 | --- | (13.9) | | | | | |
| 18 | --- | (13.6) | | | | | |
| 19 | 570 | 12.9 | | | | | |
| 20 | 510 | 11.6 | | | | | 2.4 |
| 21 | 510 | 10.0 | | | | | |
| 22 | 480 | 8.5 | | | | | 2.5 |
| 23 | (450) | (8.0) | | | | | |

Time: Local.

Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.

*Height at 0.83 foF2.

**Average values; other columns, median values.

Table 30

| Madras, India (13.0°N, 80.2°E) | | | | | | | |
|--------------------------------|-----|--------|------|------|-----|-----|---------------|
| August 1949 | | | | | | | |
| Time | * | foF2 | h'F1 | foF1 | h'E | foE | fEs (M3000)F2 |
| 00 | | | | | | | |
| 01 | | | | | | | |
| 02 | | | | | | | |
| 03 | | | | | | | |
| 04 | | | | | | | |
| 05 | | | | | | | |
| 06 | | | | | | | |
| 07 | 360 | 8.5 | | | | | |
| 08 | 420 | 9.2 | | | | | 2.6 |
| 09 | 480 | 9.6 | | | | | |
| 10 | 480 | 9.8 | | | | | |
| 11 | 480 | 10.0 | | | | | |
| 12 | 480 | 10.2 | | | | | 2.3 |
| 13 | 540 | 10.3 | | | | | |
| 14 | 540 | 10.6 | | | | | |
| 15 | 540 | 10.8 | | | | | |
| 16 | 540 | 10.8 | | | | | 2.3 |
| 17 | 540 | 10.8 | | | | | |
| 18 | 540 | 10.7 | | | | | |
| 19 | 540 | 10.5 | | | | | |
| 20 | 510 | (10.2) | | | | | 2.4 |
| 21 | 480 | (10.0) | | | | | |
| 22 | --- | (9.5) | | | | | |
| 23 | | | | | | | |

Time: Local.

Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.

*Height at 0.83 foF2.

**Average values; other columns, median values.

Table 31

Tiruchirappalli, India (10.8°N, 78.8°E)

August 1949

| Time | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|-----|-----|-----|-----------|
| 00 | | | | | | | |
| 01 | | | | | | | |
| 02 | | | | | | | |
| 03 | | | | | | | |
| 04 | | | | | | | |
| 05 | | | | | | | |
| 06 | 300 | --- | | | | | |
| 07 | 360 | 8.5 | | | | | |
| 08 | 420 | 10.2 | | | | | |
| 09 | 450 | 10.2 | | | | | |
| 10 | 480 | 10.0 | | | | | |
| 11 | 520 | 10.0 | | | | | |
| 12 | 510 | 10.0 | | | | | |
| 13 | 540 | 10.2 | | | | | |
| 14 | 560 | 10.2 | | | | | |
| 15 | 600 | 10.5 | | | | | |
| 16 | 600 | 11.2 | | | | | |
| 17 | 600 | 11.1 | | | | | |
| 18 | 590 | 11.2 | | | | | |
| 19 | 600 | 11.0 | | | | | |
| 20 | 620 | 11.0 | | | | | |
| 21 | 600 | 11.2 | | | | | |
| 22 | --- | --- | | | | | |
| 23 | | | | | | | |

Time: Local.

Sweep: 1.8 Mc to 16.0 Mc in 5 minutes, manual operation.

*Height at 0.85 foF2.

Table 32

Barotonga I. (21.3°S, 159.8°W)

August 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-----|-----|-----------|
| 00 | 260 | 6.0 | | | | | 2.3 | 2.9 |
| 01 | 255 | 6.3 | | | | | | 2.9 |
| 02 | 250 | 5.3 | | | | | | 2.9 |
| 03 | 250 | 4.8 | | | | | | 2.9 |
| 04 | 290 | 4.0 | | | | | | 2.7 |
| 05 | 290 | 3.9 | | | | | | 2.7 |
| 06 | 300 | 4.1 | | | | | 2.1 | 2.8 |
| 07 | 255 | 8.0 | --- | --- | --- | | | 3.0 |
| 08 | 250 | 10.5 | 240 | --- | 110 | 3.0 | | 3.7 |
| 09 | 260 | 11.1 | 240 | 5.0 | 110 | 3.2 | | 4.0 |
| 10 | 270 | 12.5 | 230 | 5.5 | 110 | 3.5 | | 4.2 |
| 11 | 270 | 11.6 | 220 | 5.4 | 110 | 3.7 | | 4.3 |
| 12 | 290 | 11.3 | 210 | 5.6 | 110 | 3.8 | | 4.5 |
| 13 | 300 | 11.4 | 205 | 5.4 | 110 | 3.8 | | 4.8 |
| 14 | 290 | 10.5 | 220 | 6.8 | 108 | 3.6 | | 4.7 |
| 15 | 300 | 10.5 | 230 | 5.5 | 110 | 3.4 | | 4.4 |
| 16 | 260 | 10.7 | 230 | 4.8 | 110 | 3.2 | | 4.1 |
| 17 | 250 | 10.4 | 250 | --- | 110 | 2.6 | | 4.4 |
| 18 | 260 | 10.6 | --- | --- | --- | | | 3.6 |
| 19 | 250 | 10.0 | | | | | | 3.5 |
| 20 | 250 | 9.6 | | | | | | 3.2 |
| 21 | 260 | 9.2 | | | | | | 3.0 |
| 22 | 250 | 8.3 | | | | | | 2.6 |
| 23 | 250 | 8.1 | | | | | | 2.9 |

Time: 157.5°W.

Sweep: 2.0 Mc to 16.0, manual operation.

Table 33

Brisbane, Australia (27.5°S, 153.0°E)

August 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-----|-----|-----------|
| 00 | 260 | 6.0 | | | | | 2.0 | 2.9 |
| 01 | 255 | 5.9 | | | | | 2.0 | 3.0 |
| 02 | 250 | 5.7 | | | | | 2.2 | 2.9 |
| 03 | 240 | 5.2 | | | | | 2.2 | 3.0 |
| 04 | 260 | 4.8 | | | | | 2.2 | 2.8 |
| 05 | 260 | 4.8 | | | | | | 2.9 |
| 06 | 260 | 5.2 | | | --- | --- | | 3.0 |
| 07 | 240 | 8.0 | | | 130 | 2.4 | | 3.3 |
| 08 | 240 | 9.3 | 240 | 5.2 | 120 | 3.0 | | 3.3 |
| 09 | 250 | 9.9 | 235 | 6.5 | 120 | 3.4 | | 3.2 |
| 10 | 270 | 10.1 | 230 | 5.1 | 110 | 3.7 | | 3.2 |
| 11 | 260 | 10.0 | 220 | 5.0 | 110 | 3.9 | | 3.2 |
| 12 | 270 | 9.8 | 200 | 5.2 | 110 | 3.8 | | 3.1 |
| 13 | 280 | 10.0 | 210 | 5.3 | 110 | 3.7 | | 3.1 |
| 14 | 270 | 9.7 | 220 | 5.0 | 115 | 3.6 | | 3.1 |
| 15 | 250 | 9.2 | 230 | 4.4 | 120 | 3.4 | | 3.1 |
| 16 | 240 | 9.0 | --- | 3.9 | 120 | 3.0 | 2.2 | 3.0 |
| 17 | 240 | 9.0 | | | 130 | 2.3 | 2.0 | 3.1 |
| 18 | 230 | 8.2 | | | --- | --- | 2.2 | 3.1 |
| 19 | 230 | 7.4 | | | | | | 3.0 |
| 20 | 250 | 7.0 | | | | | | 2.9 |
| 21 | 250 | 6.6 | | | | | 2.0 | 2.9 |
| 22 | 260 | 6.6 | | | | | | 2.9 |
| 23 | 250 | 6.2 | | | | | 2.0 | 2.9 |

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 66 seconds.

Table 34

Canberra, Australia (36.3°S, 149.0°E)

August 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|------|------|------|-----|-------|-----|-----------|
| 00 | 250 | 4.8 | | | | | 2.6 | 2.9 |
| 01 | 260 | 4.7 | | | | | 3.3 | 2.8 |
| 02 | 260 | 4.6 | | | | | 3.3 | 2.9 |
| 03 | 250 | 4.5 | | | | | 3.0 | 2.9 |
| 04 | 250 | 4.0 | | | | | 2.8 | 3.0 |
| 05 | 250 | 3.7 | | | | | 2.9 | 2.9 |
| 06 | 250 | 3.5 | | | --- | (1.4) | 2.4 | 3.0 |
| 07 | 230 | 5.6 | | | 140 | 2.0 | 2.8 | 3.2 |
| 08 | 230 | 7.8 | --- | --- | 100 | 2.6 | 3.5 | 3.3 |
| 09 | 240 | 8.5 | 220 | 4.3 | 100 | 3.1 | 3.5 | 3.3 |
| 10 | 250 | 9.2 | 210 | 4.5 | 100 | 3.4 | 3.5 | 3.2 |
| 11 | 250 | 9.4 | 205 | 4.6 | 100 | 3.6 | 3.5 | 3.1 |
| 12 | 250 | 9.5 | 205 | 4.6 | 100 | 3.5 | 4.0 | 3.1 |
| 13 | 260 | 9.5 | 205 | 4.6 | 100 | 3.4 | 3.5 | 3.0 |
| 14 | 250 | 9.0 | 200 | 4.5 | 100 | 3.4 | 3.6 | 3.1 |
| 15 | 245 | 8.7 | 208 | 4.2 | 100 | 3.2 | 3.6 | 3.0 |
| 16 | 240 | 8.4 | 202 | 3.5 | 100 | 2.8 | 3.5 | 3.1 |
| 17 | 230 | 8.5 | | | 115 | 2.2 | 3.4 | 3.2 |
| 18 | 220 | 7.8 | | | --- | (1.6) | 2.9 | 3.0 |
| 19 | 230 | 7.4 | | | | | 2.9 | 3.0 |
| 20 | 240 | 6.0 | | | | | 2.8 | 3.0 |
| 21 | 250 | 5.8 | | | | | 2.7 | 3.0 |
| 22 | 250 | 5.1 | | | | | 2.6 | 2.9 |
| 23 | 250 | 5.0 | | | | | 2.5 | 2.8 |

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 35

Hobart, Tasmania (42.8°S, 147.4°E)

August 1949

| Time | h'F2 | foF2 | h'F1 | foF1 | h'E | foE | fEs | (M3000)F2 |
|------|------|-------|------|------|-----|-----|-----|-----------|
| 00 | 260 | 3.5 | | | | | 4.0 | 2.6 |
| 01 | 260 | 4.0 | | | | | 3.8 | 2.6 |
| 02 | 270 | 3.8 | | | | | 3.6 | 2.6 |
| 03 | 260 | 3.6 | | | | | 4.2 | 2.7 |
| 04 | 250 | 3.3 | | | | | 4.0 | 2.7 |
| 05 | 250 | 3.1 | | | | | 4.0 | 2.7 |
| 06 | 250 | 3.1 | | | | | 3.6 | 2.8 |
| 07 | 240 | 4.3 | | | --- | E | 2.1 | 3.0 |
| 08 | 230 | 6.8 | | | --- | 2.4 | 4.0 | 3.2 |
| 09 | 230 | 7.5 | 220 | --- | --- | 2.8 | 3.3 | 3.2 |
| 10 | 250 | 8.3 | 220 | 4.2 | --- | 3.2 | 3.5 | 3.1 |
| 11 | 250 | 8.6 | 210 | 4.3 | --- | 3.3 | 3.8 | 3.0 |
| 12 | 250 | (9.5) | 210 | 4.4 | --- | 3.3 | 4.0 | (3.0) |
| 13 | 250 | 9.4 | 210 | 4.5 | --- | 3.4 | 4.0 | 3.0 |
| 14 | 250 | 9.6 | 200 | 4.3 | --- | 3.3 | 3.5 | 2.9 |
| 15 | 240 | 9.2 | 220 | 4.1 | --- | 3.0 | 3.3 | 2.9 |
| 16 | 230 | 9.3 | 210 | --- | --- | 2.7 | 3.2 | 2.9 |
| 17 | 225 | 8.0 | | | 130 | 2.0 | 2.5 | 3.0 |
| 18 | 220 | 7.8 | | | | | 2.4 | 2.9 |
| 19 | 220 | 6.6 | | | | | 2.1 | 2.9 |
| 20 | 230 | 6.2 | | | | | 2.5 | 2.8 |
| 21 | 235 | 5.5 | | | | | 2.1 | 2.7 |
| 22 | 250 | 5.2 | | | | | 2.6 | 2.7 |
| 23 | 250 | 4.4 | | | | | 3.0 | 2.7 |

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 36

Oslo, Norway (60.0°N, 11.0°E)

1949

| (M3000)F2 | | | | | | | fEs, Mc | |
|-----------|-------|-------|-------|-------|-------|-----|---------|-----|
| Time | May | June | July | Aug. | Sept. | May | June | |
| 00 | 2.6 | 2.7 | 2.7 | 2.7 | 2.5 | | | 2.3 |
| 01 | 2.5 | (2.7) | 2.7 | (2.7) | 2.5 | | | |
| 02 | 2.6 | 2.6 | 2.7 | 2.7 | 2.5 | | | |
| 03 | 2.6 | 2.6 | 2.7 | (2.7) | 2.5 | | | 1.8 |
| 04 | 2.7 | 2.6 | 2.8 | (2.7) | 2.5 | 2.0 | | 2.8 |
| 05 | 2.7 | 2.7 | 2.8 | 2.8 | 2.6 | 2.5 | | 2.9 |
| 06 | 2.7 | 2.8 | 2.8 | 3.0 | 3.0 | | | 3.1 |
| 07 | 2.7 | 2.7 | 2.8 | 2.9 | 3.0 | 2.9 | | 3.2 |
| 08 | 2.7 | 2.7 | 2.8 | 2.9 | 3.0 | | | 3.8 |
| 09 | 2.6 | 2.7 | 2.8 | 2.9 | 2.9 | 3.5 | | 3.3 |
| 10 | 2.6 | 2.7 | 2.8 | 3.0 | 2.9 | 3.6 | | 4.0 |
| 11 | 2.7 | 2.7 | 2.8 | 2.8 | 2.8 | 3.9 | | 3.9 |
| 12 | 2.7 | 2.6 | 2.8 | 2.8 | 2.8 | 3.8 | | 3.8 |
| 13 | 2.7 | 2.6 | 2.8 | 2.8 | 2.8 | | | 3.7 |
| 14 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 3.3 | | |
| 15 | 2.8 | 2.7 | 2.8 | 2.9 | 2.8 | | | |
| 16 | 2.8 | 2.8 | 2.8 | 2.9 | 2.8 | | | 3.5 |
| 17 | 2.8 | 2.8 | 2.8 | 2.9 | 2.8 | | | |
| 18 | 2.9 | 2.8 | 2.8 | 3.0 | 2.9 | | | 3.2 |
| 19 | 2.9 | 2.8 | 2.8 | 3.1 | 2.9 | 2.8 | | 3.0 |
| 20 | 2.9 | 2.9 | 2.9 | 3.0 | (2.8) | 2.4 | | 3.0 |
| 21 | 2.8 | 2.8 | 2.8 | 2.9 | (2.8) | 1.7 | | 2.4 |
| 22 | 2.7 | 2.8 | 2.8 | 2.8 | 2.7 | | | 2.4 |
| 23 | (2.7) | 2.7 | (2.8) | 2.8 | (2.6) | | | |

Time: 15.0°E.

Sweep: 1.6 Mc to 10.0 Mc in 5 minutes, automatic operation.

TABLE 37

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

h'F₂ (Characteristic) _____ Km (Unit) _____
Observed at _____ Washington, D. C.December, 1949
(Month)

IONOSPHERIC DATA

National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D. C.B.P.

Calculated by: B.E.B. C.B.P.

75°W Mean Time

Lat. 38.7°N, Long. 77.1°W

| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----|--------------------|--------------------|--------------------|--------------------|-----|-----|-----|--------------------|--------------------|--------------------|--------------------|--------------------|-----|--------------------|
| 1 | (350) ^S | 370 ^A | 320 ^A | 290 ^A | 260 ^A | 300 ^A | 300 ^A | 250 ^A | 230 | 210 | 220 | 220 | [220] ^C | 220 | 220 | 230 | 230 | 220 | 220 | C | C | C | C | C |
| 2 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 3 | 270 | 280 | 250 | 260 | 280 | 290 | 280 | 250 | 210 | 220 | 220 | 240 | 230 | [230] ^B | 230 | 220 | 220 | (250) ^A | 250 | 220 | 250 | 240 | 250 | 250 |
| 4 | [260] ^A | (270) ^A | 250 | 260 | (310) ^S | 300 | 260 | 270 | 230 | 230 | 230 | 230 | 230 | 220 | 230 | 230 | 230 | 220 | 230 | 210 | 220 | 240 | 240 | 240 |
| 5 | 300 | 280 | 270 | 270 | 240 | 240 | 230 | 230 | 220 | 230 | 220 | 220 | [220] ^C | 220 | 220 | 220 | 220 | 220 | 240 | 220 | 220 | 230 | 270 | 230 |
| 6 | 260 | 270 | 260 | 270 | 250 | 250 | 230 | 240 | 230 | 210 | 210 | 220 | 230 | 220 | 230 | 240 | 220 | 210 | 210 | 230 | [250] ^C | 270 | 270 | 270 |
| 7 | 290 | 280 | 250 | 250 | 230 | 270 | 260 | 240 | 210 | 210 | 210 | 230 | 220 | 220 | 230 | 220 | 220 | 210 | 210 | 220 | 220 | (250) ^A | 250 | 270 |
| 8 | A | A | A | A | A | A | 290 | 260 | 210 | 220 | 210 | [240] ^S | 270 | 220 | 220 | 230 | 210 | 220 | 250 | 250 | A | A | A | 310 |
| 9 | 340 | [390] ^S | 340 | 300 | 290 | 300 | 370 | 290 | 240 | 230 | 210 | 230 | 230 | 220 | 220 | 230 | 220 | 210 | 210 | 220 | 240 | 270 | 300 | (290) ^A |
| 10 | [290] ^A | (300) ^A | 270 | (210) ^S | 290 | 270 | 270 | 230 | 230 | 210 | 220 | 230 | 220 | 230 | 220 | 230 | 220 | 210 | 210 | 220 | 220 | (250) ^A | 250 | 270 |
| 11 | A | A | A | A | 300 | [290] ^A | 290 | 230 | 210 | 210 | 210 | 230 | 210 | 230 | 210 | 220 | 210 | 210 | 230 | 250 | 250 | A | A | A |
| 12 | 290 | 290 | 290 | 270 | 280 | 250 | 270 | 230 | 210 | 220 | C | C | 230 | [230] ^C | 230 | C | C | C | C | C | C | C | C | C |
| 13 | C | C | C | C | C | C | C | C | C | C | [220] ^B | (220) ^B | 220 | 230 | 220 | 220 | 220 | 230 | 210 | 210 | 230 | 250 | 280 | (290) ^S |
| 14 | 300 | 260 | 270 | 290 | 270 | 290 | 280 | 250 | 230 | 220 | 220 | 250 | 230 | 230 | 220 | 230 | 220 | 210 | 210 | 230 | 240 | 230 | 260 | 270 |
| 15 | 270 | 270 | 250 | 240 | 230 | 230 | 250 | 230 | 210 | 220 | 220 | 220 | 210 | 220 | 230 | 230 | 210 | 210 | 230 | 230 | 250 | 280 | 270 | 280 |
| 16 | 270 | 270 | 270 | 270 | C | C | C | C | 220 | 220 | 250 | 230 | 220 | 210 | 220 | 230 | 210 | 210 | [220] ^A | 230 | 210 | 230 | 260 | 300 |
| 17 | 280 | 290 | 250 | 230 | 260 | 240 | (270) ^S | 230 | 210 | 210 | 210 | 230 | 230 | 210 | 210 | 230 | 210 | 210 | 210 | 210 | 220 | 250 | 240 | 250 |
| 18 | 280 | 290 | 270 | 260 | 280 | 280 | 260 | 220 | 220 | 210 | 230 | 230 | 240 | 220 | 220 | 230 | 220 | 200 | 210 | 220 | 220 | 250 | 270 | [270] ^A |
| 19 | 270 | (300) ^A | 280 | A | A | (280) ^S | (250) ^S | (230) ^S | 220 | 220 | 220 | 230 | 220 | 220 | 230 | 220 | 210 | 220 | 220 | 220 | 220 | 240 | 250 | 250 |
| 20 | 300 | 300 | 290 | 280 | 250 | 240 | 280 | 250 | 220 | 220 | 230 | 230 | 210 | 210 | 230 | 230 | 230 | 230 | A | A | A | A | 250 | 260 |
| 21 | 280 | 290 | 280 | 270 | 250 | 240 | 250 | 260 | 230 | 220 | 240 | 220 | 210 | 220 | 210 | 230 | 210 | 200 | 210 | 220 | 240 | 270 | 280 | 270 |
| 22 | 290 | 300 | 270 | 260 | [240] ^C | C | 300 | 260 | [240] ^M | 220 | 220 | 220 | 220 | 230 | 220 | 230 | 230 | 210 | 210 | 210 | A | A | 270 | 290 |
| 23 | 290 | 270 | 270 | [260] ^C | 250 | 240 | (270) ^S | 260 | 210 | 210 | 220 | 230 | 230 | 240 | 230 | 230 | 230 | 210 | 220 | 230 | C | C | C | A |
| 24 | 270 | 260 | 240 | 210 | C | C | C | 270 | 220 | 210 | 210 | 220 | 230 | 230 | 230 | 230 | 220 | 210 | 200 | 210 | 230 | 250 | C | C |
| 25 | 250 | [260] ^C | 260 | 230 | 250 | 260 | 260 | 260 | 230 | 230 | 230 | 230 | 240 | 230 | 230 | 230 | 220 | 220 | 220 | 210 | 230 | 240 | 250 | 260 |
| 26 | 270 | 290 | [270] ^C | 260 | 270 | 280 | 240 | 240 | 220 | 230 | 220 | 230 | 240 | 240 | 240 | 220 | 220 | 220 | 220 | [220] ^A | [230] ^A | (230) ^S | 250 | 250 |
| 27 | 260 | 260 | 270 | 280 | C | C | 270 | [260] ^C | 250 | 220 | 220 | 210 | 230 | 220 | 220 | 220 | 220 | 220 | 220 | 210 | 200 | A | A | 260 |
| 28 | 260 | 260 | 250 | 240 | 250 | [250] ^A | 260 | 220 | 210 | 210 | 210 | 210 | 220 | 220 | 230 | 240 | 250 | 220 | 200 | 200 | 240 | 240 | 250 | [260] ^A |
| 29 | 260 | 250 | 250 | 250 | 230 | 220 | 250 | 210 | 200 | 220 | 210 | 220 | [220] ^C | 230 | 230 | 230 | 230 | 210 | 230 | (230) ^A | [230] ^A | 230 | 240 | 250 |
| 30 | 270 | 270 | 270 | 260 | 250 | 230 | 230 | 220 | [220] ^C | 230 | 220 | 220 | [220] ^C | 230 | 230 | 240 | 250 | 220 | 200 | 210 | 200 | 230 | 240 | 250 |
| 31 | 280 | 270 | 270 | 240 | 260 | 290 | 270 | 280 | 210 | 210 | 220 | 220 | 230 | 230 | 230 | 230 | 220 | 210 | 210 | 200 | 220 | 230 | 260 | 270 |
| Median | 280 | 280 | 270 | 260 | 260 | 260 | 270 | 240 | 220 | 220 | 220 | 230 | 220 | 220 | 230 | 230 | 220 | 210 | 210 | 220 | 230 | 250 | 260 | 270 |
| Count | 27 | 27 | 27 | 26 | 24 | 24 | 27 | 28 | 29 | 30 | 30 | 30 | 31 | 31 | 31 | 3* | 3* | 3* | 28 | 28 | 26 | 24 | 24 | 26 |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 38
Control Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

National Bureau of Standards
(Institution)

Scored by: B.E.B. J.D. C.B.P.

foF2 Mc December, 1949
(Characteristic) (Unit) (Month)

Observed at Washington, D. C.

Lot 38.7°N, Long 77.1°W

| Lot. 38.7°N | | Long 77.1°W | | 75°W | | | | | | | | | | | | Mean Time | | | | B.E.B. | | | | C.B.P. | | | |
|-------------|---------|-------------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|---------|---------|---------|---------|--|--|--|
| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| 1 | [2.8] 4 | (2.3) 4 | 2.4 4 | 3.2 4 | (3.3) 4 | 2.6 4 | 2.7 4 | (5.1) 4 | (8.9) 4 | 10.1 | 12.0 | 12.2 | 12.4 | 12.7 | (12.9) 4 | (12.2) 4 | 11.3 | 9.9 | C | C | C | C | C | C | | | |
| 2 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | | | |
| 3 | 4.6 | 4.5 | 4.3 | (3.9) 4 | 3.7 | (3.4) 4 | 3.5 | (5.4) 4 | (8.2) 4 | (9.7) 4 | 11.5 | (12.0) 4 | 13.1 | 12.9 | 13.0 | 12.6 | (11.6) 4 | (10.8) 4 | (10.3) 4 | (8.7) 4 | 7.6 | [7.5] 4 | (6.8) 4 | (6.2) 4 | | | |
| 4 | (5.9) 4 | (4.9) 4 | (5.2) 4 | [4.6] 4 | 4.1 | (4.2) 4 | (4.3) 4 | (6.9) 4 | 9.5 | 10.2 | 11.5 | 13.4 | 13.0 | 12.6 | 12.4 | (12.1) 4 | (12.3) 4 | 11.5 | (10.3) 4 | (9.0) 4 | [9.0] 4 | [7.0] 4 | [6.4] 4 | (5.8) 4 | | | |
| 5 | (5.4) 4 | (5.7) 4 | (5.5) 4 | (5.0) 4 | (4.6) 4 | (4.6) 4 | 4.0 | (5.1) 4 | (8.2) 4 | (11.3) 4 | (12.8) 4 | 13.2 | 13.7 | [13.2] 4 | 12.8 | 12.8 | (11.8) 4 | 11.4 | 10.0 | (8.4) 4 | S | S | S | (5.5) 4 | | | |
| 6 | (5.0) 4 | (5.4) 4 | (5.2) 4 | (4.8) 4 | (4.4) 4 | (4.7) 4 | (4.3) 4 | (5.4) 4 | 8.5 | (9.2) 4 | 12.8 | 13.5 | 13.1 | 12.7 | 12.2 | 12.9 | (12.3) 4 | (11.1) 4 | (9.3) 4 | S | C | (5.9) 4 | (5.4) 4 | 5.2 | | | |
| 7 | (4.9) 4 | (5.1) 4 | (5.6) 4 | (5.2) 4 | (4.0) 4 | (3.3) 4 | 3.2 | 4.8 | (7.7) 4 | 8.9 | 11.2 | 12.2 | 11.9 | 11.3 | (11.2) 4 | 11.5 | 11.2 | 9.5 | 8.4 | 7.1 | (6.1) 4 | (4.9) 4 | (4.7) 4 | (4.4) 4 | | | |
| 8 | (4.2) 4 | (4.0) 4 | (4.0) 4 | A | A | 3.3 4 | 3.2 | (4.8) 4 | (7.8) 4 | 9.7 | (10.1) 4 | [11.0] 4 | 11.9 | 12.0 | 11.4 | 11.5 | 10.9 | (9.8) 4 | (8.9) 4 | 7.6 | (7.2) 4 | (5.1) 4 | 4.5 | (4.0) 4 | | | |
| 9 | (3.8) 4 | (3.8) 4 | 4.4 | (4.4) 4 | 3.4 4 | F | 2.9 4 | 4.4 4 | 8.4 | (10.1) 4 | 11.0 | 13.4 | 13.8 | (12.9) 4 | (12.9) 4 | (12.8) 4 | (11.9) 4 | (10.9) 4 | (9.2) 4 | (7.6) 4 | (6.5) 4 | (5.7) 4 | (5.9) 4 | 6.0 | | | |
| 10 | (5.2) 4 | (5.3) 4 | 4.9 | 4.4 | (4.3) 4 | (4.0) 4 | (3.9) 4 | 5.0 | (8.8) 4 | 9.0 | (12.0) 4 | 12.8 | (11.6) 4 | (11.8) 4 | (11.6) 4 | (11.7) 4 | (11.3) 4 | 10.0 | (8.2) 4 | (6.6) 4 | (6.0) 4 | (4.7) 4 | (4.6) 4 | [4.3] 4 | | | |
| 11 | (4.0) 4 | (3.8) 4 | (3.8) 4 | (3.6) 4 | (3.6) 4 | (3.8) 4 | 3.6 4 | (4.9) 4 | 8.6 | (10.2) 4 | 10.8 | 12.5 | (12.3) 4 | 12.0 | (12.1) 4 | (11.9) 4 | (11.4) 4 | 10.8 | (9.8) 4 | 7.5 | (6.5) 4 | 5.2 4 | (5.1) 4 | 4.6 4 | | | |
| 12 | 4.2 | (3.8) 4 | (3.8) 4 | 3.7 4 | 4.2 4 | 4.0 4 | F | (4.0) 4 | 7.9 | (10.3) 4 | C | C | 12.4 | [12.1] 4 | (11.8) 4 | C | C | C | C | C | C | C | C | C | | | |
| 13 | C | C | C | C | C | C | C | C | C | 10.0 | 11.6 | (13.2) 4 | (12.8) 4 | 13.0 | 12.6 | 12.4 | (11.6) 4 | 10.3 | (9.4) 4 | (7.8) 4 | (6.2) 4 | (5.4) 4 | [5.1] 4 | (5.0) 4 | | | |
| 14 | (5.1) 4 | (5.3) 4 | 5.0 | 4.9 | 4.7 | 4.6 | 4.6 | 5.2 4 | 7.8 | (10.3) 4 | (12.2) 4 | 13.8 | 13.6 | (4.4) 4 | (13.8) 4 | (13.7) 4 | (13.0) 4 | 12.5 | (10.4) 4 | (9.3) 4 | (8.6) 4 | (7.4) 4 | (7.4) 4 | (6.9) 4 | | | |
| 15 | (7.6) 4 | (7.4) 4 | (7.0) 4 | (6.9) 4 | (5.8) 4 | (5.2) 4 | (5.3) 4 | 5.2 4 | (8.1) 4 | (11.3) 4 | 12.0 | (14.0) 4 | 13.4 | 12.2 | 12.6 | (12.1) 4 | 11.3 | (9.8) 4 | (10.6) 4 | (9.1) 4 | 6.1 | (5.9) 4 | (5.4) 4 | (4.7) 4 | | | |
| 16 | (6.4) 4 | 5.6 | 5.2 | 5.0 | (4.6) 4 | (4.0) 4 | (4.0) 4 | 4.9 4 | 7.9 4 | 10.5 | 13.1 | 12.9 | (12.5) 4 | (13.0) 4 | (13.1) 4 | (13.0) 4 | (11.8) 4 | (11.3) 4 | (9.4) 4 | (8.2) 4 | (6.7) 4 | 5.4 4 | 5.0 4 | (5.0) 4 | | | |
| 17 | 5.5 | (5.4) 4 | (5.3) 4 | 4.8 | 4.5 | 4.0 | 3.7 | (4.6) 4 | 7.5 | 9.7 | 11.1 | (13.8) 4 | (12.7) 4 | (11.4) 4 | (11.5) 4 | (12.6) 4 | (11.8) 4 | (9.7) 4 | 8.6 | (7.1) 4 | (6.3) 4 | (5.1) 4 | (4.8) 4 | (4.0) 4 | | | |
| 18 | (3.5) 4 | (3.8) 4 | 4.5 4 | (4.0) 4 | 3.8 4 | 3.8 4 | (4.1) 4 | 4.4 | 7.7 | 8.3 | 10.7 | (12.6) 4 | 12.3 | 11.5 | 12.0 | (12.2) 4 | 11.3 | (10.4) 4 | (9.2) 4 | (7.8) 4 | (6.7) 4 | 5.3 4 | (5.1) 4 | 4.1 | | | |
| 19 | (4.2) 4 | (3.6) 4 | (3.5) 4 | 3.8 | (3.7) 4 | (3.7) 4 | (3.8) 4 | (4.3) 4 | 7.7 | 10.2 | 11.7 | 12.6 | 12.0 | (12.0) 4 | 12.6 | (12.4) 4 | (11.2) 4 | (10.4) 4 | (9.4) 4 | (7.8) 4 | (6.2) 4 | 5.7 | (5.0) 4 | (4.3) 4 | | | |
| 20 | (4.3) 4 | (4.0) 4 | (4.4) 4 | 4.3 4 | 4.5 4 | (4.0) 4 | 3.6 4 | (4.4) 4 | (8.2) 4 | 9.4 | 11.4 | 11.9 | 11.8 | 11.9 | (12.3) 4 | (12.7) 4 | 12.1 | (10.6) 4 | 9.1 | (7.5) 4 | (5.9) 4 | (5.0) 4 | (4.7) 4 | (4.2) 4 | | | |
| 21 | (4.3) 4 | (4.1) 4 | 4.7 4 | 4.8 | 4.7 | (4.1) 4 | (3.8) 4 | (4.3) 4 | 8.3 | 10.2 | (11.6) 4 | 11.3 | 11.3 | 11.4 | (11.0) 4 | [11.0] 4 | (11.1) 4 | (9.9) 4 | (7.9) 4 | 6.4 | (5.1) 4 | (5.2) 4 | (4.9) 4 | 4.7 | | | |
| 22 | (4.4) 4 | (4.6) 4 | (4.7) 4 | (4.2) 4 | [4.2] 4 | C | 3.4 4 | (4.7) 4 | [7.0] 4 | 9.4 | 10.8 | 11.5 | 11.5 | 11.3 | 11.1 | 10.8 | 10.7 | (10.3) 4 | 7.6 | 5.7 | (4.3) 4 | (3.9) 4 | (4.1) 4 | (4.0) 4 | | | |
| 23 | 4.2 | (4.0) 4 | (4.3) 4 | [4.0] 4 | 3.7 4 | 3.3 4 | 3.4 4 | 3.6 4 | (7.7) 4 | 9.2 | 11.1 | 11.8 | 11.1 | 11.0 | (11.4) 4 | 11.3 | (11.7) 4 | (11.6) 4 | 8.5 | 6.5 | 5.7 | (4.5) 4 | 4.9 4 | 4.8 4 | | | |
| 24 | 6.4 4 | 6.1 4 | 6.9 4 | 6.5 4 | (3.8) 4 | (3.3) 4 | (2.9) 4 | 4.3 | 8.0 | 10.4 | 11.7 | (11.4) 4 | 11.7 | 11.7 | (11.7) 4 | 11.9 | (11.6) 4 | 10.3 | 8.5 | 6.5 | 5.7 | (4.5) 4 | 4.9 4 | 4.8 4 | | | |
| 25 | (4.7) 4 | 4.7 4 | 4.7 4 | 4.5 | (3.4) 4 | 3.2 | (3.0) 4 | (4.6) 4 | 7.6 | (10.8) 4 | 12.0 | (12.2) 4 | 11.8 | 12.5 | 12.4 | (11.8) 4 | 11.3 | 11.0 | 9.2 | (7.0) 4 | (5.8) 4 | (5.4) 4 | 4.8 | 4.8 4 | | | |
| 26 | (4.2) 4 | 4.7 | (4.7) 4 | (5.1) 4 | 4.7 | 4.7 | 4.6 | (4.5) 4 | 7.5 | 11.4 | 12.0 | 12.5 | (12.0) 4 | 12.6 | (12.7) 4 | 12.0 | 11.0 | 10.6 | 9.5 | (7.4) 4 | 6.3 | 5.5 | 5.4 | (4.8) 4 | | | |
| 27 | (4.3) 4 | (4.0) 4 | (4.0) 4 | 4.1 | (4.1) 4 | (3.7) 4 | (3.0) 4 | (3.2) 4 | (6.9) 4 | 9.7 | (11.3) 4 | 11.5 | 12.0 | (12.2) 4 | (11.7) 4 | (11.4) 4 | (11.4) 4 | (10.8) 4 | (10.2) 4 | (8.0) 4 | (5.9) 4 | (4.9) 4 | [4.7] 4 | (4.8) 4 | | | |
| 28 | (5.1) 4 | 5.1 | 5.0 | 4.3 | (4.4) 4 | (3.8) 4 | (3.5) 4 | (4.3) 4 | (7.8) 4 | 10.8 | 11.7 | 11.8 | 11.9 | 12.2 | (12.4) 4 | (12.8) 4 | (12.2) 4 | (12.5) 4 | (10.0) 4 | (8.4) 4 | (7.2) 4 | (6.0) 4 | (4.9) 4 | (4.9) 4 | | | |
| 29 | (5.3) 4 | (5.3) 4 | (5.4) 4 | (5.1) 4 | (4.8) 4 | (4.2) 4 | (3.4) 4 | (3.7) 4 | (6.7) 4 | 10.3 | 11.2 | 11.0 | 11.0 | 12.0 | [11.7] 4 | 11.3 | (11.2) 4 | 11.0 | (9.1) 4 | 7.7 | 5.9 | 5.3 4 | 4.3 4 | (3.9) 4 | | | |
| 30 | 4.0 | (4.4) 4 | (5.1) 4 | (4.7) 4 | (5.1) 4 | (5.0) 4 | (4.6) 4 | (4.2) 4 | [7.7] 4 | 11.0 | 11.4 | 11.8 | [11.7] 4 | 11.6 | 11.8 | 12.2 | (12.4) 4 | 12.7 | (10.3) 4 | (10.0) 4 | 8.1 | (7.0) 4 | (6.5) 4 | (6.4) 4 | | | |
| 31 | (6.3) 4 | (6.2) 4 | (5.3) 4 | (4.9) 4 | 4.5 4 | 3.8 4 | 3.8 4 | 3.8 4 | (7.8) 4 | 9.7 | 11.6 | 12.0 | 12.0 | 13.0 | (13.3) 4 | (13.2) 4 | (13.2) 4 | 11.6 | (11.0) 4 | (9.1) 4 | (7.4) 4 | (6.5) 4 | (5.5) 4 | (5.5) 4 | | | |
| Median | (4.6) 4 | (4.7) 4 | (4.7) 4 | (4.6) 4 | (4.2) 4 | (3.9) 4 | (3.7) 4 | (4.6) 4 | (7.8) 4 | (10.2) 4 | 11.6 | 12.4 | 12.0 | 12.2 | (12.2) 4 | (12.0) 4 | (11.6) 4 | (10.7) 4 | (9.2) 4 | (7.6) 4 | (6.2) 4 | (5.4) 4 | (5.0) 4 | (4.8) 4 | | | |
| Count | 29 | 29 | 29 | 28 | 28 | 28 | 29 | 29 | 29 | 30 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 28 | 27 | 28 | 28 | 27 | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min
Manual ☐ Automatic ☒

TABLE 40
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

h'F₁ (Characteristic) _____ Km (Unit) _____
Observed at _____ Washington, D. C. _____
December, 1949
(Month)

IONOSPHERIC DATA

National Bureau of Standards
(Institution)
Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., J.D., C.B.P.

| Day | | 75°W | | | | | | | | | | | | Mean Time | | | | | | | | | | | | B.E.B | | | | C.B.P | | | |
|--------|--|------|----|----|----|----|----|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----|----|----|----|----|-------|--|--|--|-------|--|--|--|
| | | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | |
| 1 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | C | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | C | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | |
| Median | | | | | | | | | 1 | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| Count | | | | | | | | | 2 | | 3 | 2 | | | | | | | | | | | | | | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min
Manual ☐ Automatic ☒

foF1 _____, Mc _____, December _____, 1949
(Characteristic) (Unit) (Month)

Observed at Washington, D. C.
Lat. 38.7°N, Long. 77.1°W

National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D., C.B.P.
Calculated by: B.E.B., C.B.P.

| Lot <u>38.7°N</u> , Long. <u>77.1°W</u> | | | | | | | | | | | | | | | | | | | | | | | | 75°W | | | | | | | | | | | | Mean Time | | | | | | | | | | | | Calculated by: <u>B.E.B.</u> , <u>C.B.P.</u> | | | | |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|--|--|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Median | | | | | | | | | | | — | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Count | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min
Manual ☐ Automatic ☒

TABLE 42

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

h'E _____ Km _____
(Characteristic) (Unit) (Month)Observed at _____
Washington, D. C.National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., C.B.P.

| Lat. 38.7°N, Long. 77.1°W | | | | | | | | | | | | | | | | | | | | | | | | | 75°W | | | | | | | | | | Mean Time | | | | | | | | | | Calculated by: B.E.B., C.B.P. | | | |
|---------------------------|----|----|----|----|----|----|----|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----|----|----|----|----|----|----|------|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|-------------------------------|--|--|--|
| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | (100) ^A | (100) ^A | 100 | 100 | C | B | 120 | 120 | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | C | C | 100 | (100) ^A | 100 | [100] ^B | (100) ^A | (100) ^A | (100) ^A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | (100) ^A | (100) ^A | (100) ^A | (100) ^A | (100) ^A | [100] ^B | 110 | 110 | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | 110 | (100) ^A | (100) ^A | [100] ^B | 110 | 110 | 110 | 110 | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | (100) ^A | 110 | 110 | 100 | (100) ^A | [110] ^C | 120 | (100) ^A | (110) ^A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | 110 | 110 | 110 | 110 | 110 | 110 | 100 | 110 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | 110 | 100 | 100 | 100 | 100 | 110 | 110 | 110 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | 110 | 110 | (100) ^A | [100] ^C | (100) ^A | 100 | 100 | B | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | 100 | 120 | 130 | B | B | (120) ^B | 100 | 100 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | B | B | B | B | B | 100 | B | B | 160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | 100 | (100) ^A | B | B | B | (100) ^A | (100) ^A | (100) ^A | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | 130 | B | C | C | B | C | (110) ^A | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | C | 120 | B | B | 110 | 110 | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | B | B | 110 | (110) ^B | 110 | (110) ^A | (100) ^A | (100) ^S | 130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | (100) ^A | (100) ^A | 110 | 110 | (110) ^A | 110 | 110 | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | B | B | (120) ^A | (120) ^A | 110 | 100 | 100 | 100 | (100) ^A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | 130 | 120 | 110 | 100 | 100 | 100 | 100 | 100 | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | B | B | B | B | B | 100 | (100) ^A | 110 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | (120) ^S | (130) ^B | (130) ^B | 120 | 110 | 110 | 110 | (120) ^B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | 120 | 120 | (110) ^S | 110 | 110 | 110 | (100) ^A | 100 | (130) ^A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | B | 110 | (100) ^A | 110 | 100 | 100 | 100 | 100 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | M | B | B | B | (100) ^A | 100 | [100] ^B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | B | (100) ^A | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | B | 110 | (120) ^B | 110 | (100) ^A | (100) ^A | (100) ^A | 110 | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | (100) ^A | (100) ^A | 120 | [110] ^B | (100) ^A | (120) ^A | (90) ^A | 110 | (120) ^B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | 120 | 120 | 120 | 110 | B | B | C | B | (100) ^A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | C | 120 | 120 | 120 | [120] ^C | 110 | 110 | 110 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | 100 | 100 | 100 | 110 | 110 | 100 | 110 | (100) ^A | (100) ^S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Median | | | | | | | | | 110 | 110 | 110 | 110 | 100 | 100 | 100 | 100 | 110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Count | | | | | | | | | 14 | 21 | 21 | 21 | 20 | 24 | 24 | 20 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 43
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

foE _____ Mc _____ December, 1949
(Characteristic) (Unit) (Month)

Observed at _____ Washington, D. C.

National Bureau of Standards
Scaled by: B. E. B., J. D., C. B. P.
Calculated by: B. E. B., C. B. P.

Lot 36.7°N, Long 77.1°W

75°W Mean Time

| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|--------|----|----|----|----|----|----|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----|--------------------|--------------------|--------------------|----|----|----|----|----|----|----|
| 1 | | | | | | | | | A | 2.9 | 3.1 | 3.5 | C | B | (2.9) ^B | 2.8 | 2.2 | | | | | | | |
| 2 | | | | | | | | C | C | C | 3.1 | [3.3] ^B | 3.5 | B | B | 2.6 | A | | | | | | | |
| 3 | | | | | | | | 2.3 | A | A | A | A | A | B | B | (2.7) ^P | 2.5 | | | | | | | |
| 4 | | | | | | | | | 2.6 | A | A | B | B | 3.3 | 3.2 | 2.7 | 2.1 | | | | | | | |
| 5 | | | | | | | | (2.5) ^A | 2.5 | 2.9 | 3.3 | 3.3 | B | C | (3.3) ^B | 2.9 | A | | | | | | | |
| 6 | | | | | | | | | 2.6 | 3.1 | B | B | B | 3.2 | 2.9 | 2.7 | B | | | | | | | |
| 7 | | | | | | | | 2.2 | 2.5 | 2.9 | 3.1 | 3.3 | 3.3 | 3.2 | 2.8 | 2.5 | B | | | | | | | |
| 8 | | | | | | | | 2.2 | 2.8 | A | C | A | A | 3.3 | B | B | 2.8 | | | | | | | |
| 9 | | | | | | | | | 2.7 | 2.9 | 3.1 | B | B | 3.3 | (3.2) ^F | B | B | | | | | | | |
| 10 | | | | | | | | | B | B | B | B | B | B | B | B | 2.2 | | | | | | | |
| 11 | | | | | | | | | 2.6 | A | B | B | B | A | A | A | B | | | | | | | |
| 12 | | | | | | | | (2.3) ^B | B | C | C | C | B | C | B | C | C | | | | | | | |
| 13 | | | | | | | | C | (2.5) ^S | B | B | B | 3.2 | 3.3 | B | B | B | | | | | | | |
| 14 | | | | | | | | B | B | 2.9 | 2.9 | (3.1) ^S | (3.2) ^A | A | (2.6) ^S | 2.2 | | | | | | | | |
| 15 | | | | | | | | 2.2 | [2.6] ^A | 3.0 | 3.2 | [3.2] ^A | 3.2 | 2.8 | B | B | B | | | | | | | |
| 16 | | | | | | | | B | B | (2.4) ^A | 3.3 | (3.2) ^F | 3.2 | 2.9 | (2.4) ^S | A | | | | | | | | |
| 17 | | | | | | | | 2.2 | 2.6 | 2.9 | 3.1 | 3.3 | (3.1) ^S | 2.6 | 2.2 | 2.2 | | | | | | | | |
| 18 | | | | | | | | B | B | B | B | B | B | 2.9 | 2.8 | 2.6 | B | | | | | | | |
| 19 | | | | | | | | 2.2 | (2.6) ^B | (3.0) ^B | 3.1 | 3.2 | 3.2 | 2.9 | (2.6) ^B | B | | | | | | | | |
| 20 | | | | | | | | 1.8 | (2.5) ^B | 2.8 | 3.0 | 3.1 | 2.9 | 2.8 | 2.6 | (2.2) ^B | | | | | | | | |
| 21 | | | | | | | | 2.1 | 2.5 | [2.8] ^A | 3.1 | 3.1 | 2.9 | 2.8 | 2.6 | B | | | | | | | | |
| 22 | | | | | | | | M | B | B | B | B | 3.2 | 3.0 | [2.6] ^B | B | B | | | | | | | |
| 23 | | | | | | | | B | A | B | B | B | 3.1 | B | B | B | B | | | | | | | |
| 24 | | | | | | | | B | B | B | B | B | B | B | B | B | B | | | | | | | |
| 25 | | | | | | | | B | B | B | B | B | B | B | B | B | B | | | | | | | |
| 26 | | | | | | | | B | B | B | B | B | B | B | B | B | B | | | | | | | |
| 27 | | | | | | | | B | (2.6) ^B | (2.9) ^B | (3.3) ^F | A | A | 3.1 | 2.7 | 2.2 | | | | | | | | |
| 28 | | | | | | | | 2.2 | [2.6] ^B | 2.9 | B | B | B | 3.1 | 3.0 | 2.7 | (2.2) ^B | | | | | | | |
| 29 | | | | | | | | 2.3 | 2.6 | (2.7) ^F | (3.1) ^F | B | B | C | B | A | | | | | | | | |
| 30 | | | | | | | | C | B | 3.0 | 3.1 | [3.1] ^C | 3.2 | 3.1 | 2.7 | B | | | | | | | | |
| 31 | | | | | | | | 2.1 | 2.6 | 3.1 | 3.2 | 3.3 | 3.2 | 3.0 | 2.7 | 2.2 | | | | | | | | |
| Median | | | | | | | | 2.2 | 2.6 | 2.9 | 3.1 | 3.2 | 3.2 | 3.2 | 2.9 | 2.7 | 2.2 | | | | | | | |
| Count | | | | | | | | 14 | 17 | 18 | 16 | 14 | 18 | 18 | 17 | 11 | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 44

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

Es (Characteristic) Mc.Km December 1949
(Unit) (Month)

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., C.B.P.

75°W Mean Time

| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | G | G | G | G | G | G | G | G | 28/100 | 42/100 | G | G | C | G | G | G | G | G | C | C | C | C | C | C |
| 2 | C | C | C | C | C | C | C | C | C | C | C | 27/100 | G | G | 26/100 | 23/100 | 32/100 | 27/100 | 32/100 | G | 30/100 | 31/100 | G | G |
| 3 | 33/100 | 32/100 | G | G | G | G | G | G | 24/100 | 44/100 | 44/100 | 38/100 | 29/100 | 25/100 | G | G | G | 42/100 | 42/100 | 33/100 | 36/100 | 20/100 | G | G |
| 4 | 39/100 | 29/100 | G | G | G | G | G | G | 33/100 | G | 39/100 | 27/100 | G | G | G | G | G | 42/100 | 43/110 | G | G | G | G | G |
| 5 | 29/100 | 37/100 | 31/100 | G | G | G | G | G | 33/100 | G | G | G | 31/100 | C | G | 26/100 | 31/110 | 31/100 | G | G | G | G | G | G |
| 6 | 31/100 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | C | G | G | G |
| 7 | 57/100 | 42/100 | 43/100 | 56/100 | 92/100 | 110/100 | G | 68/100 | G | G | 42/100 | 50/100 | G | 45/110 | G | G | 48/100 | G | G | G | G | 50/100 | G | G |
| 8 | G | G | G | G | G | G | G | G | G | G | 23/100 | G | 51/100 | G | G | G | G | G | G | G | G | 43/100 | G | G |
| 9 | G | G | G | G | G | G | G | G | G | G | 23/100 | G | G | G | G | G | G | G | G | G | G | G | 39/100 | 94/100 |
| 10 | 98/100 | 52/100 | G | G | G | G | 28/100 | 26/100 | G | G | G | G | G | G | G | G | G | 19/100 | 32/100 | 54/100 | G | G | 57/100 | 76/100 |
| 11 | 72/100 | 76/100 | 64/100 | 39/100 | G | 49/100 | 31/100 | 38/100 | 26/100 | G | G | G | G | 31/100 | 29/100 | 30/100 | G | 36/100 | 22/100 | G | G | G | G | G |
| 12 | G | G | G | G | G | G | G | G | G | G | C | C | C | C | 29/100 | C | C | C | C | C | C | C | C | C |
| 13 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 14 | G | G | G | G | G | G | G | G | G | G | G | G | G | 33/110 | 40/100 | G | G | G | G | G | G | G | G | G |
| 15 | G | 44/110 | G | G | G | G | G | 23/100 | 26/100 | 25/100 | G | G | 34/110 | G | G | G | G | G | G | G | G | G | G | G |
| 16 | G | G | G | G | G | G | G | G | G | G | 29/120 | 34/120 | 35/120 | G | G | G | 54/100 | 36/100 | 74/100 | 46/150 | 40/100 | 28/100 | G | 19/100 |
| 17 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G |
| 18 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | 26/100 | G | G | G | G | G | 47/110 | G | G | 43/100 |
| 19 | 34/100 | 35/100 | 56/100 | 56/100 | 65/100 | 37/100 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G |
| 20 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | 66/100 | G | 46/130 | 52/110 | 47/100 | 56/100 | 48/110 | 46/150 | G | G |
| 21 | G | G | G | G | G | G | G | G | G | G | 63/100 | G | G | G | G | G | G | G | G | G | G | G | G | G |
| 22 | G | G | G | G | G | G | G | G | G | G | G | G | 26/100 | G | G | G | G | G | G | G | 64/100 | 65/100 | G | G |
| 23 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | 47/100 |
| 24 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | 19/100 | G | G | G | G |
| 25 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G |
| 26 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | 49/100 | 67/100 | 78/100 | 17/100 | G |
| 27 | G | G | G | G | G | G | G | G | G | G | G | G | 28/100 | 33/100 | 25/100 | 23/100 | G | 48/100 | 42/100 | 30/100 | 46/100 | 84/100 | 75/100 | G |
| 28 | G | G | G | G | 32/100 | 43/100 | 27/100 | G | 19/100 | 42/100 | G | G | 26/100 | 29/100 | 19/90 | G | G | G | 18/100 | 17/100 | 32/100 | 40/100 | 21/100 | 19/100 |
| 29 | G | G | G | G | G | G | G | G | G | G | G | G | G | G | C | G | 24/100 | 26/100 | 28/100 | 56/100 | 43/100 | 23/100 | G | G |
| 30 | G | G | G | G | G | G | G | G | G | G | G | G | C | G | G | G | G | G | G | G | 21/100 | 21/100 | 59/100 | 56/100 |
| 31 | 43/100 | 47/100 | 38/100 | 35/100 | 25/100 | G | G | G | G | G | G | G | G | G | G | 23/100 | G | G | G | 17/100 | 22/100 | 42/110 | G | G |
| Median | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| Count | 29 | 49 | 29 | 28 | 28 | 28 | 29 | 29 | 28 | 30 | 30 | 29 | 29 | 29 | 30 | 30 | 30 | 30 | 29 | 29 | 28 | 29 | 29 | 29 |

Sweep 1.0 Mc in 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

** MEDIAN fEs LESS THAN MEDIAN fOF OR LESS
THAN LOWER FREQUENCY LIMIT OF RECORDER.

TABLE 45
Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

National Bureau of Standards
(Institution)
Scaled by: B.E.B., J.D. C.B.P.
Calculated by: B.E.B., C.B.P.

(MI500)F2 December 1949
(Characteristic) (Month)
Observed at Washington, D. C.

| Lot 38.7°N, Long 77.1°W | | | | | | | | | | | | | | | | | | | | | | | | 75°W | | | | | | | | | | Mean Time | | | | | | | | | | B.E.B. | | | | C.B.P. | | | |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|--------|--|--|--|--------|--|--|--|
| | | | | | | | | | | | | | | | | | | | | | | | | Calculated by: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | F | 1.7 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 2.2 | 2.2 | 2.1 | 2.0 | C | (1.9) | (2.0) | (2.0) | 2.1 | (2.0) | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | C | C | C | C | C | C | C | C | C | C | 2.1 | 2.0 | 2.0 | 2.0 | (1.9) | 2.0 | (2.0) | (1.9) | (1.9) | S | (2.0) | (2.0) | (2.0) | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 2.0 | 2.0 | 2.0 | 2.0 | 1.8 | (1.8) | 1.9 | (2.2) | (2.4) | (2.2) | 2.0 | (2.0) | 2.0 | 1.9 | 1.9 | 1.9 | (2.0) | (1.9) | (2.0) | (2.0) | 2.0 | S | (2.0) | (1.9) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | (2.0) | (2.0) | (2.0) | (2.1) | S | 1.6 | (1.7) | (1.9) | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.9 | 1.9 | (1.9) | (1.9) | (1.9) | (2.0) | (2.0) | S | S | S | (2.1) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | (1.8) | (1.7) | (1.7) | (1.8) | (1.9) | (1.9) | 2.0 | (2.2) | (2.2) | (2.2) | (2.1) | 2.1 | 2.0 | C | 2.0 | 2.0 | (2.0) | 2.0 | 2.0 | S | C | (1.9) | (1.9) | 1.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | (2.1) | (1.9) | (1.9) | S | (2.0) | (1.9) | (1.9) | (2.1) | 2.2 | (2.0) | 2.0 | 2.1 | 2.0 | 2.0 | 1.9 | 2.0 | (2.0) | (2.0) | (2.0) | S | C | (1.9) | (1.9) | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | (1.8) | (1.8) | (1.9) | (1.9) | (2.0) | (1.9) | 1.9 | 2.3 | (2.1) | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 2.1 | 2.1 | 2.1 | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | (2.0) | (2.0) | (2.0) | A | A | 1.8A | 1.9 | (2.2) | (2.4) | 2.3 | (2.4) | C | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | (2.0) | (2.0) | 2.1 | (1.9) | (2.0) | 1.9 | (1.8) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | (1.7) | (1.7) | 1.6 | (1.7) | 1.9 | 1.8 | 1.7 | 1.8 | 2.4 | 2.4 | 2.0 | 2.1 | 2.0 | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (1.9) | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | (1.8) | (1.9) | 2.0 | 1.9 | (1.9) | (1.8) | (2.0) | 2.2 | (2.3) | 2.3 | (2.1) | 2.1 | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | 2.1 | (2.1) | (2.0) | (2.0) | (2.0) | (1.9) | A | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | A | (1.9) | (1.9) | (1.8) | (1.8) | (1.8) | 1.9 | (2.1) | 2.3 | (2.5) | 2.1 | 2.2 | (2.0) | 2.1 | (2.0) | (2.0) | (2.0) | 2.1 | (2.0) | 2.0 | (2.0) | 2.0 | (1.9) | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 1.9 | (2.0) | (1.9) | 1.9 | (1.9) | 1.9 | (2.0) | 2.2 | 2.2 | (2.3) | C | C | 2.1 | C | (2.0) | C | C | C | C | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | C | C | C | C | C | C | C | C | C | 2.2 | 2.1 | (2.1) | (2.0) | 2.0 | 2.0 | (2.0) | (2.1) | 2.0 | (2.1) | (2.1) | (2.0) | (2.0) | S | (2.2) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | (1.8) | (2.0) | 2.0 | 1.8 | 1.8 | 1.7 | 1.9 | 2.1 | 2.2 | (2.2) | (2.1) | 2.0 | 2.0 | (2.0) | (2.1) | (2.1) | (2.0) | 2.0 | (2.0) | (1.9) | (2.0) | (1.9) | (1.7) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | (1.9) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (1.9) | (2.0) | (2.3) | (2.3) | 2.1 | (2.1) | 2.1 | 2.1 | 2.1 | (2.0) | 2.0 | (2.0) | (1.9) | 2.0 | (2.1) | (2.1) | (1.9) | (1.8) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | (2.0) | 1.9 | 1.9 | 1.9 | (2.0) | (1.8) | (2.0) | (2.1) | 2.2 | 2.2 | 2.3 | 2.1 | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | 2.0 | (1.8) | (1.8) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 2.0 | (1.9) | (2.0) | 2.1 | 2.0 | 2.0 | 1.9 | (1.9) | 2.3 | 2.3 | 2.0 | (2.1) | (2.1) | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | 2.0 | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | (1.8) | (1.9) | 1.9 | (2.0) | 1.9 | 1.9 | (2.1) | 2.1 | 2.4 | 2.3 | 2.3 | 2.3 | 2.1 | 2.0 | 2.0 | (2.0) | 2.1 | (2.0) | (2.0) | (2.0) | (2.0) | 1.9 | (2.1) | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | (2.0) | (2.0) | (2.1) | 1.8 | (1.8) | (2.0) | (2.0) | (2.0) | 2.2 | 2.2 | 2.1 | 2.2 | 2.1 | (2.0) | 2.1 | (2.2) | (2.1) | (2.2) | (2.1) | (2.0) | (2.0) | 2.0 | (2.1) | (2.1) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | (1.7) | (2.0) | (1.8) | 1.9 | 1.9 | (2.0) | 1.9 | (2.0) | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.0 | (2.1) | (2.1) | 2.1 | (2.1) | 2.0 | (2.0) | (2.1) | (2.1) | (2.1) | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | (1.9) | (1.8) | 1.9 | 1.9 | 2.0 | (2.0) | (2.1) | (2.0) | 2.4 | 2.3 | (2.4) | 2.2 | 2.1 | 2.1 | (2.2) | S | (2.2) | (2.1) | (2.1) | 2.0 | (2.0) | (2.0) | (2.0) | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | (1.9) | (2.0) | (2.1) | (2.0) | C | C | 2.0 | (2.1) | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | (2.1) | 2.1 | 2.1 | (1.9) | (1.8) | (1.9) | (1.9) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 1.9 | (2.0) | (2.1) | C | 2.0 | 2.0 | 1.9 | 2.0 | 2.3 | 2.3 | 2.2 | 2.2 | 2.0 | 2.0 | (2.0) | 2.0 | (2.0) | 1.9 | 2.0 | 2.0 | 2.0 | 1.7 | 1.7 | 1.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 1.8 | 2.0 | 2.1 | 2.1 | (2.2) | (1.8) | (1.8) | 1.9 | 2.3 | 2.3 | 2.1 | (2.1) | 2.0 | 2.0 | (2.0) | (2.0) | (2.1) | (2.1) | 2.1 | 2.0 | 1.9 | (2.0) | (2.1) | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | (2.0) | 1.9 | 2.0 | 2.1 | (1.9) | 1.9 | (1.9) | (1.9) | 2.2 | (2.2) | (2.1) | (2.1) | 2.0 | 2.0 | 2.1 | (2.2) | 2.0 | 2.0 | 2.2 | (2.3) | (2.0) | (2.0) | (2.0) | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | (1.9) | 1.8 | (1.9) | (1.9) | 1.8 | 1.9 | 2.1 | (2.0) | 2.1 | 2.2 | 2.3 | 2.2 | (2.1) | 2.0 | (2.1) | 2.1 | 2.2 | 2.2 | 2.2 | (2.1) | 2.0 | 2.0 | 2.0 | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | (1.9) | (1.9) | (2.0) | 2.0 | (2.0) | (2.3) | (2.1) | (2.0) | (2.2) | 2.2 | (2.2) | 2.2 | 2.1 | (2.1) | (2.1) | (2.2) | (2.1) | (2.2) | (2.2) | (2.2) | (2.1) | (1.9) | A | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | (1.9) | 1.9 | 2.0 | 2.0 | (2.0) | (1.9) | (2.0) | (2.1) | (2.3) | 2.3 | 2.3 | 2.1 | 2.1 | 2.0 | (2.0) | (2.0) | (2.1) | (2.2) | (2.2) | (2.2) | (2.1) | (2.1) | (1.9) | (1.8) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | (1.9) | (2.1) | (1.9) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (2.2) | 2.3 | 2.3 | 2.1 | 2.1 | 2.0 | (2.0) | (2.0) | (2.1) | (2.1) | (2.1) | 2.2 | 2.2 | 2.1 | 1.9 | (1.9) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 1.8 | (1.8) | (1.8) | (1.9) | (1.9) | (2.0) | (2.0) | (1.9) | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | (1.9) | 2.1 | (2.0) | 2.0 | (2.0) | (2.0) | (1.9) | (1.9) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | (1.9) | (2.0) | (1.9) | (1.8) | 1.8 | 1.8 | 1.8 | 1.9 | (2.3) | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | (2.0) | (1.9) | (2.1) | (2.1) | (2.1) | (2.1) | (2.1) | (2.1) | (1.8) | (1.7) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Median | (1.9) | (1.9) | (1.9) | 1.9 | (1.9) | (1.9) | (1.9) | (2.0) | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | (2.0) | (2.0) | (2.1) | (2.0) | (2.0) | (2.0) | (2.0) | (2.0) | (1.9) | (2.0) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Count | 27 | 29 | 28 | 26 | 27 | 28 | 29 | 28 | 27 | 30 | 29 | 29 | 29 | 29 | 30 | 29 | 30 | 30 | 29 | 27 | 26 | 26 | 25 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min
Manual ☐ Automatic ☒

TABLE 46

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

National Bureau of Standards

(Institution)

Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., J.D., C.B.P.

(M3000)F2 December 1949

(Characteristic) (Unit) (Month)

Observed at Washington, D. C.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|--------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | F ^h | (2.6)F | (2.8)F | (2.8)F | (2.7)F | (2.7)F | (2.7)F | (3.1)F | (3.4)F | (3.2)F | (3.1)F | (3.0)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.1)F | (3.0)F | (2.9)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 2 | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C |
| 3 | 3.0 | 3.1 | 3.0 | (3.1)F | (2.7)F | (2.7)F | (2.8)F | (3.2)F | (3.5)F | (3.2)F | (3.0)F | (3.0)F | (3.0)F | (2.8)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (2.9)F |
| 4 | (3.0)F | (3.0)F | (3.1)F | S | (2.5)F | (2.7)F | (2.8)F | S | (3.4)F | (3.3)F | (3.2)F | (3.1)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F |
| 5 | (2.7)F | (2.9)F | (2.9)F | (2.8)F | (2.8)F | (2.8)F | (3.0)F | (3.2)F | (3.3)F | (3.2)F | (3.1)F | (3.1)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F |
| 6 | (2.8)F | (3.0)F | S | (2.8)F | (3.1)F | (2.9)F | (3.0)F | (3.1)F | (3.3)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (2.8)F | (2.8)F | (2.8)F |
| 7 | (2.8)F | (2.8)F | (2.9)F | (3.1)F | (3.0)F | (2.8)F | (2.9)F | (3.3)F | (3.1)F | (3.4)F | (3.1)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 8 | (3.0)F | (2.9)F | (2.9)F | A | A | (2.7)F | (2.9)F | (3.2)F | (3.5)F | (3.3)F | (3.1)F | C | (3.0)F | (3.1)F | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.0)F | (2.8)F | (2.8)F | (2.8)F |
| 9 | (2.6)F | (2.5)F | (2.5)F | (2.6)F | (2.9)F | (2.7)F | (2.8)F | (2.8)F | (3.2)F | (3.2)F | (3.1)F | (3.1)F | (2.9)F | (3.1)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (2.9)F | (2.9)F | (3.0)F |
| 10 | (2.8)F | (2.8)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.2)F | (3.4)F | (3.4)F | (3.2)F | (3.1)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (2.9)F | (3.0)F | (3.0)F | (2.9)F | A |
| 11 | A | (2.9)F | (2.9)F | (2.8)F | (2.7)F | (2.8)F | (2.9)F | (3.2)F | (3.4)F | (3.5)F | (3.1)F | (3.2)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (2.9)F | (2.9)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (2.9)F | (2.9)F |
| 12 | (2.9)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.2)F | (3.2)F | (3.3)F | C | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (2.8)F | (2.8)F | (3.0)F |
| 13 | C | C | C | C | C | C | C | C | C | (3.3)F | (3.3)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F |
| 14 | (2.8)F | (3.0)F | (3.0)F | (3.0)F | (2.7)F | (2.7)F | (2.9)F | (3.1)F | (3.3)F | (3.3)F | (3.1)F | (3.0)F | (3.0)F | (2.9)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F | (2.9)F | (3.3)F |
| 15 | (2.9)F | (3.0)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.4)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.2)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F | (2.9)F | (2.6)F |
| 16 | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (2.7)F | (3.0)F | (3.1)F | (3.3)F | (3.3)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F | (3.0)F | (2.7)F |
| 17 | (2.9)F | (2.8)F | (3.0)F | (3.1)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (3.4)F | (3.4)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.8)F |
| 18 | (2.8)F | (3.0)F | (3.0)F | (3.0)F | (2.9)F | (2.8)F | (3.1)F | (3.1)F | (3.6)F | (3.4)F | (3.3)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| 19 | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (2.8)F | (3.0)F | (3.0)F | (3.1)F | (3.3)F | (3.2)F | (3.2)F | (3.2)F | (3.2)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 20 | (2.6)F | (3.0)F | (2.7)F | (2.8)F | (2.8)F | (3.0)F | (2.9)F | (3.2)F | (3.4)F | (3.2)F | (3.3)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F |
| 21 | (2.9)F | (2.8)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.1)F | (3.0)F | (3.4)F | (3.3)F | (3.4)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| 22 | (2.9)F | (3.0)F | (3.1)F | (3.0)F | C | C | (2.9)F | (3.1)F | (3.4)F | (3.4)F | (3.2)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| 23 | (2.8)F | (3.0)F | (2.9)F | C | (3.0)F | (3.0)F | (2.8)F | (3.0)F | (3.2)F | (3.2)F | (3.3)F | (3.1)F | (3.0)F | (3.0)F | (3.1)F | (2.9)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.6)F | (2.6)F | (2.8)F |
| 24 | (2.8)F | (2.9)F | (3.1)F | (3.2)F | (3.4)F | (2.7)F | (2.8)F | (2.9)F | (3.3)F | (3.4)F | (3.2)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 25 | (3.0)F | (2.9)F | (3.0)F | (3.2)F | (2.9)F | (2.8)F | (2.9)F | (2.9)F | (3.3)F | (3.2)F | (3.2)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 26 | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.8)F | (2.8)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| 27 | (2.9)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.3)F | (3.3)F | (3.2)F | (3.2)F | (3.2)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.0)F |
| 28 | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (2.9)F | (2.9)F | (3.0)F | (3.0)F | (3.3)F | (3.3)F | (3.4)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.7)F |
| 29 | (2.8)F | (3.1)F | (2.9)F | (3.0)F | (3.1)F | (3.0)F | (3.0)F | (3.0)F | (3.3)F | (3.4)F | (3.2)F | (3.3)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| 30 | (2.8)F | (2.7)F | (2.7)F | (2.8)F | (2.9)F | (3.1)F | (3.0)F | (2.9)F | (3.3)F | (3.3)F | (3.3)F | (3.2)F | C | (3.0)F | (3.0)F | (2.9)F | (2.9)F | (2.9)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (2.7)F | (2.8)F |
| 31 | (2.9)F | (3.0)F | (2.9)F | (2.8)F | (2.6)F | (2.7)F | (2.8)F | (2.9)F | (3.3)F | (3.3)F | (3.1)F | (3.0)F | (3.0)F | (2.9)F | (3.0)F | (2.9)F | (3.0)F | (3.0)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.7)F | (2.7)F |
| Median | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.9)F | (2.8)F | (2.9)F | (3.1)F | (3.3)F | (3.3)F | (3.2)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (3.1)F | (2.9)F |
| Count | 27 | 29 | 28 | 26 | 27 | 28 | 29 | 28 | 27 | 30 | 30 | 29 | 29 | 29 | 30 | 29 | 30 | 30 | 27 | 27 | 26 | 26 | 25 | 28 |

Sweep 1.0 Mc to 55.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 47

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

(M3000)F1, _____, _____, December, 1949
(Characteristic) (Unit) (Month)

Observed at Washington, D. C.

Lat. 38.7°N, Long. 77.1°W

IONOSPHERIC DATA

National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., C.B.P.

75°W Mean Time

| Day | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 2 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 3 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 4 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 5 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 6 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 7 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 8 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 9 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 10 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 11 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 12 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 13 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 14 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 15 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 16 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 17 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 18 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 19 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 20 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 21 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 22 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 23 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 24 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 25 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 26 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 27 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 28 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 29 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 30 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| 31 | | | | | | | | | Q | Q | Q | Q | Q | Q | Q | Q | Q | | | | | | | |
| Median | | | | | | | | | | | | | | | | | | | | | | | | |
| Count | | | | | | | | | | | | | | | | | | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 48

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

(M1500E)
(Characteristic) December 1949
(Month)

Observed at Washington, D. C.

IONOSPHERIC DATA

National Bureau of Standards
(Institution)

Scaled by: B.E.B., J.D., C.B.P.

Calculated by: B.E.B., C.B.P.

| Day | 75°W | | | | | | | | | | Mean Time | | | | | | | | | | | | | |
|--------|------|----|----|----|----|----|----|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----|----|----|----|----|----|----|
| | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | | | | | | | | | A | 4.1 | 4.2 | 4.3 | C | B | (4.3) ^B | 3.9 | 4.7 | | | | | | | |
| 2 | | | | | | | | | C | C | 4.2 | B | 4.3 | B | B | 4.5 | A | | | | | | | |
| 3 | | | | | | | | | 4.2 | A | A | A | A | B | B | (4.4) ^P | 4.5 | | | | | | | |
| 4 | | | | | | | | | 4.5 | A | B | B | B | 4.3 | 4.2 | 4.4 | 4.3 | | | | | | | |
| 5 | | | | | | | | | (4.1) ^A | 4.3 | 4.4 | 4.2 | B | C | (4.4) ^B | 4.1 | A | | | | | | | |
| 6 | | | | | | | | | 4.4 | 4.4 | B | B | B | 4.3 | 4.4 | 4.2 | B | | | | | | | |
| 7 | | | | | | | | | 4.1 | 4.4 | 4.1 | 4.4 | 4.4 | 4.4 | 4.6 | 4.2 | B | | | | | | | |
| 8 | | | | | | | | | 3.9 | 4.3 | A | C | A | 4.4 | B | B | 4.5 | | | | | | | |
| 9 | | | | | | | | | 4.3 | 4.1 | 4.2 | B | B | 4.1 | (4.3) ^P | B | B | | | | | | | |
| 10 | | | | | | | | | B | B | B | B | B | B | B | B | 3.8 | | | | | | | |
| 11 | | | | | | | | | 4.6 | A | B | B | B | A | A | A | B | | | | | | | |
| 12 | | | | | | | | | (4.1) ^B | B | C | C | B | C | B | C | C | | | | | | | |
| 13 | | | | | | | | | C | (4.4) ^S | B | B | 4.5 | 4.1 | B | B | B | | | | | | | |
| 14 | | | | | | | | | B | B | 4.1 | 4.5 | (4.3) ^S | (4.4) ^A | A | (4.5) ^S | 4.0 | | | | | | | |
| 15 | | | | | | | | | 4.0 | A | 4.4 | 4.3 | A | 4.4 | 4.5 | B | B | | | | | | | |
| 16 | | | | | | | | | B | B | (4.4) ^A | 3.9 | (4.1) ^P | 4.3 | 4.7 | (4.7) ^S | A | | | | | | | |
| 17 | | | | | | | | | 3.7 | 4.2 | 4.5 | 4.4 | 4.5 | (4.3) ^S | 4.4 | 4.5 | 4.1 | | | | | | | |
| 18 | | | | | | | | | B | B | B | B | B | 4.6 | 4.6 | 4.5 | B | | | | | | | |
| 19 | | | | | | | | | 4.0 | (4.1) ^B | (4.0) ^B | 4.2 | 4.2 | 4.3 | 4.5 | (4.2) ^B | B | | | | | | | |
| 20 | | | | | | | | | 4.3 | (4.2) ^B | 4.3 | 4.3 | 4.0 | 4.4 | 4.3 | 4.1 | (4.4) ^B | | | | | | | |
| 21 | | | | | | | | | 3.8 | 4.3 | A | 4.1 | 4.2 | 4.3 | 4.4 | 4.1 | B | | | | | | | |
| 22 | | | | | | | | | M | B | B | B | 4.1 | 4.4 | B | B | B | | | | | | | |
| 23 | | | | | | | | | B | A | B | B | 4.2 | B | B | B | B | | | | | | | |
| 24 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | |
| 25 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | |
| 26 | | | | | | | | | B | B | B | B | B | B | B | B | B | | | | | | | |
| 27 | | | | | | | | | B | (4.2) ^B | (4.1) ^B | (3.9) ^P | A | A | 4.3 | 4.1 | 4.1 | | | | | | | |
| 28 | | | | | | | | | 3.6 | B | 4.1 | B | B | 4.2 | 4.3 | 4.1 | (4.5) ^B | | | | | | | |
| 29 | | | | | | | | | 3.7 | 4.0 | (4.3) ^P | (4.2) ^P | B | B | C | B | A | | | | | | | |
| 30 | | | | | | | | | C | B | 4.5 | 4.2 | C | 4.1 | 4.4 | 4.3 | B | | | | | | | |
| 31 | | | | | | | | | 4.1 | 4.2 | 4.1 | 4.2 | 4.2 | 4.3 | 4.4 | 4.3 | 4.0 | | | | | | | |
| Median | | | | | | | | | 4.0 | 4.3 | 4.2 | 4.2 | 4.2 | 4.3 | 4.4 | 4.2 | 4.3 | | | | | | | |
| Count | | | | | | | | | 14 | 15 | 17 | 15 | 12 | 18 | 17 | 18 | 11 | | | | | | | |

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Table 49

Ionospheric Storminess at Washington, D. C.December 1949

| Day | Ionospheric character* | | Principal storms | | Geomagnetic character** | |
|-----|------------------------|-----------|------------------|---------|-------------------------|-----------|
| | 00-12 GCT | 12-24 GCT | Beginning GCT | End GCT | 00-12 GCT | 12-24 GCT |
| 1 | 5 | 2 | 0100 | 1100 | 2 | 0 |
| 2 | *** | 2 | | | 2 | 0 |
| 3 | 2 | 2 | | | 1 | 2 |
| 4 | 1 | 1 | | | 2 | 2 |
| 5 | 2 | 1 | | | 2 | 2 |
| 6 | 1 | 1 | | | 2 | 2 |
| 7 | 1 | 2 | | | 1 | 1 |
| 8 | 2 | 3 | | | 1 | 2 |
| 9 | 3 | 1 | | | 3 | 3 |
| 10 | 2 | 2 | | | 1 | 1 |
| 11 | 3 | 2 | | | 1 | 0 |
| 12 | 2 | 2 | | | 0 | 0 |
| 13 | *** | 1 | | | 1 | 1 |
| 14 | 2 | 2 | | | 2 | 3 |
| 15 | 3 | 1 | | | 2 | 1 |
| 16 | 2 | 1 | | | 2 | 1 |
| 17 | 2 | 1 | | | 2 | 1 |
| 18 | 3 | 2 | | | 1 | 1 |
| 19 | 3 | 2 | | | 1 | 1 |
| 20 | 2 | 2 | | | 2 | 1 |
| 21 | 2 | 2 | | | 2 | 2 |
| 22 | 2 | 3 | | | 2 | 1 |
| 23 | 2 | 3 | | | 1 | 2 |
| 24 | 1 | 2 | | | 4 | 1 |
| 25 | 1 | 2 | | | 2 | 1 |
| 26 | 2 | 2 | | | 2 | 1 |
| 27 | 1 | 2 | | | 1 | 1 |
| 28 | 1 | 1 | | | 2 | 2 |
| 29 | 1 | 2 | | | 1 | 2 |
| 30 | 1 | 2 | | | 1 | 2 |
| 31 | 1 | 1 | | | 2 | 3 |

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D. C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No readable record. Refer to table 38 for detailed explanation.

Table 50Sudden Ionosphere Disturbances Observed at Washington, D. C.December 1949

| 1949
Day | GCT | | Location of transmitters | Relative
intensity
at
minimum* | Other phenomena |
|-------------|-----------|------|--------------------------|---|-----------------------|
| | Beginning | End | | | |
| December | | | | | |
| 11 | 1435 | 1500 | Ohio, D. C., England | 0.2 | |
| 12 | 1254 | 1320 | England | 0.2 | |
| 13 | 1455 | 1520 | Ohio, D. C., England | 0.1 | Solar flare**
1448 |

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU (formerly W8XAL), 6080 kilocycles, 600 kilometers distant, for all SID except the following: Station GIH, 13525 kilocycles, received in New York, 5340 kilometers distant, was used for the SID on December 12.

**Time of observation at Wendelstein Observatory, Germany.

Table 51Sudden Ionosphere Disturbances Reported by Engineer-in-Chief,Cable and Wireless, Ltd., as Observed in England

| 1949
Day | GCT | | Receiving
station | Location of transmitters |
|-------------|-----------|------|----------------------|---|
| | Beginning | End | | |
| December | | | | |
| 9 | 1240 | 1525 | Somerton | Argentina, Brazil |
| 12 | 1256 | 1325 | Brentwood | Barbados, Belgian Congo, Canary Is., Chile, Greece, India, Iran, Kenya, Malta, Palestine, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, Uruguay, U.S.S.R., Yugoslavia, Zanzibar |
| 12 | 1255 | 1325 | Somerton | Argentina, Brazil, Gold Coast, Union of S. Africa |

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 52Sudden Ionosphere Disturbances Reported by RCA Laboratories,as Observed at Barbados, B. W. I.

| 1949
Day | GCT
Beginning End | | Location of transmitters | Other
phenomena |
|-------------|----------------------|------|--------------------------|---|
| October | | | | |
| 1 | 1713 | 1720 | England, Jamaica | Terr.mag.
pulse*
1709-1725
Solar flare**
0314 |
| 3 | 0320 | 0400 | Australia | |
| 4 | 1320 | 1400 | England | |
| 6 | 1330 | 1355 | England, Jamaica | |
| 8 | 1315 | 1340 | England, Jamaica | |
| 11 | 1520 | 1600 | England, Jamaica | |
| 13 | 1145 | 1225 | England, Jamaica | |
| 15 | 1645 | 1700 | England, Jamaica | |
| November | | | | |
| 6-7 | 2338 | 0105 | Australia | |
| 14-15 | 2325 | 0110 | Australia | |
| 17 | 1135 | 1200 | England | |
| 19 | 1945 | 2140 | Canada | |
| 29 | 0650 | 0705 | England | |

*As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

**Time of observation at Kodaikanal Observatory, India.

Table 53

Sudden Ionosphere Disturbances Reported By Institut für Ionosphärenforschung,
as Observed at Lindau, Harz, Germany, October 1949

| 1949
Day | GCT | | Location of transmitters | Relative
intensity
at
minimum* | Other phenomena |
|-------------|-----------|------|--------------------------|---|--------------------------------|
| | Beginning | End | | | |
| October | | | | | |
| 1 | 1000 | 1035 | Berlin, Lindau** | 0.03 | Terr.mag.pulse***
1005-1020 |
| 1 | 1410 | 1425 | Berlin | 0.3 | |
| 2 | 1400 | 1430 | Berlin, Lindau** | 0.03 | Terr.mag.pulse***
1400-1415 |
| 3 | 1200 | 1215 | Berlin, Lindau** | 0.2 | |
| 4 | 1315 | 1340 | Berlin, Lindau** | 0.3 | Terr.mag.pulse***
1355-1430 |
| # | 1020 | 1040 | Lindau** | | Terr.mag.pulse***
1025-1035 |
| 5 | 1120 | 1135 | Berlin, Lindau** | 0.2 | Terr.mag.pulse***
1120-1130 |
| 6 | 1140 | 1155 | Berlin | 0.2 | Terr.mag.pulse***
1115-1200 |
| 6 | 1320 | 1430 | Berlin, Lindau** | 0.3 | Terr.mag.pulse***
1335-1445 |
| 8 | 1315 | 1340 | Berlin, Lindau** | 0.06 | Terr.mag.pulse***
1315-1325 |
| 9 | 0620 | 0640 | Lindau** | | |
| 9 | 1300 | 1400 | Lindau** | | |
| 10 | 0950 | 1010 | Lindau** | | Terr.mag.pulse***
1045-1105 |
| 11 | 1150 | 1300 | Berlin, Lindau** | 0.1 | |
| 11 | 1520 | 1535 | Berlin, Lindau** | 0.05 | Terr.mag.pulse***
1520-1630 |
| 12 | 1150 | 1210 | Lindau** | | |
| 13 | 1140 | 1245 | Berlin, Lindau** | 0.03 | Terr.mag.pulse***
1155-1305 |
| 18 | 1230 | 1300 | Berlin | 0.02 | |
| 22 | 1355 | 1430 | Berlin | 0.4 | |
| 23 | 1110 | 1145 | Berlin | 0.05 | Terr.mag.pulse***
1130-1145 |
| 28 | 0810 | 0900 | Berlin | 0.4 | Terr.mag.pulse***
0815 |
| 28 | 1050 | 1110 | Lindau** | | |
| 29 | 1045 | 1115 | Berlin | 0.4 | Terr.mag.pulse***
1055-1100 |

*Ratio of received field intensity during SID to average field intensity before and after, for station Voice of America, 6078.9 kilocycles, 200 km distant.

**Lindau station 1780 kilocycles pulse, transmitter and receiver at Lindau.

***Time of observation at Lindau.

#Day not indicated.

Table 54

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and Forecasts)
November 1949

| | North Atlantic quality figure | | CRPL* Warning | CRPL** Forecast (J-reports) | North Pacific quality figure | | Geo-magnetic K _{Ch} |
|--------|-------------------------------|------|---------------|-----------------------------|------------------------------|-----|------------------------------|
| Day | Half day | | Half day | | Half day | | Half day |
| | GCT | | GCT | | GCT | | GCT |
| | (1) | (2) | (1) | (2) | (1) | (2) | (1) (2) |
| 1 | 7 | 5 | | | 6 | 6 | 2 (4) |
| 2 | 5 | 5 | U | | 6 | 6 | (4) 3 |
| 3 | 6 | 6 | | X | 6 | 7 | 3 2 |
| 4 | 7 | 6 | | X | 6 | 7 | 2 1 |
| 5 | 6 | 6 | | | 6 | 6 | 3 3 |
| 6 | 7 | 7 | | | 7 | 7 | 2 1 |
| 7 | 8 | 7 | | | 6 | 7 | 1 1 |
| 8 | 7 | 7 | | | 5 | 6 | 0 0 |
| 9 | 8 | 7 | | X | 5 | 6 | 2 2 |
| 10 | 8 | 7 | | X | 6 | 7 | 2 3 |
| 11 | 6 | 6 | W (U) | | 6 | 6 | (4) 2 |
| 12 | 6 | 6 | | | 6 | 6 | 3 3 |
| 13 | 7 | 6 | | | 6 | 7 | 3 1 |
| 14 | 8 | 6 | | | 5 | 6 | 2 2 |
| 15 | 7 | 6 | | | 6 | 7 | 2 2 |
| 16 | 7 | 7 | | | 7 | 8 | 3 1 |
| 17 | 7 | 6 | | | 7 | 7 | 0 1 |
| 18 | 7 | 6 | | | 6 | 7 | 1 3 |
| 19 | 5 (3) | | (W) | | 6 | 5 | 3 (4) |
| 20 | (3) (3) | | W W | | 5 | 5 | (4) 2 |
| 21 | (4) 5 | | U | | 5 | 5 | 2 2 |
| 22 | 6 5 | | U | | 6 | 6 | 1 1 |
| 23 | 7 5 | | | | 5 | 6 | 2 2 |
| 24 | 7 5 | | | | 6 | 6 | 2 0 |
| 25 | 6 6 | | | | 5 | 6 | 1 1 |
| 26 | 7 6 | | | | 6 | 6 | 0 2 |
| 27 | 7 6 | | | | 6 | 7 | 3 2 |
| 28 | 7 6 | | | X | 6 | 7 | 2 1 |
| 29 | 6 6 | | | X | 6 | 6 | (4) 3 |
| 30 | 6 5 | | W W | | 6 | 6 | (4) (4) |
| Score: | Warning | | Forecast | | | | |
| | N.A. | N.P. | N.A. | N.P. | | | |
| H | 5 | 1 | 0 | 0 | | | |
| (M) | 0 | 0 | 0 | 0 | | | |
| M | 0 | 0 | 4 | 0 | | | |
| G | 50 | 50 | 44 | 48 | | | |
| O | 5 | 9 | 12 | 12 | | | |

Scales:

Quality Figures

- (1) - Useless
(2) - Very poor
(3) - Poor
(4) - Poor to fair
5 - Fair
6 - Fair to good
7 - Good
8 - Very good
9 - Excellent

Geomagnetic K_{Ch} - 0 to 9,
9 representing the greatest
disturbance; K_{Ch} > 4 indicates
significant disturbance,
enclosed in () for emphasis.

Symbols:

W Disturbed conditions
expected

U Unstable conditions
expected

N No disturbance expected

X Probable disturbed date

Scoring:

H Storm (Q < 4) hit

(M) Storm severer than
predicted

M Storm missed

G Good day forecast

O Overwarning

Scoring by half day according
to following table:

| | Quality Figure | | | |
|---|----------------|---|---|-----|
| | ≤ 3 | 4 | 5 | ≥ 6 |
| W | H | H | O | O |
| U | (M) | H | H | O |
| N | M | M | G | G |
| X | H | H | O | O |

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half day as broadcast. () broadcast for one-quarter day. Blanks signify N.

**In addition to dates marked X, the following were designated as probable disturbed days on forecast more than eight days in advance of said dates: November 11-12.

Table 55a

Coronal observations at Climax, Colorado (5303A), east limb

| Date
GCT | Degrees north of the solar equator | | | | | | | | | | | | | | | | | | | 0° | Degrees south of the solar equator | | | | | | | | | | | | | | | | | | |
|-----------------------|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|
| | 90 | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 5 | | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | | |
| 1949 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec. 1.7 ^a | - | - | - | - | - | - | - | - | 2 | 5 | 9 | 10 | 10 | 11 | 12 | 11 | 11 | 10 | 11 | 13 | 13 | 10 | 12 | 10 | 7 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - |
| 2.7 ^a | - | - | - | - | - | - | - | - | 1 | 2 | 3 | 4 | 9 | 8 | 13 | 13 | 12 | 14 | 15 | 14 | 17 | 15 | 10 | 10 | 9 | 7 | 4 | 3 | 2 | 1 | 1 | 2 | 2 | - | - | - | - | - | |
| 3.8 ^a | - | - | - | - | - | - | - | - | - | - | - | - | 10 | 10 | 13 | 13 | 14 | 14 | 14 | 14 | 13 | 12 | 9 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4.7 ^a | - | - | - | - | - | - | - | - | - | - | - | 3 | 8 | 13 | 24 | 25 | 20 | 27 | 26 | 20 | 17 | 15 | 13 | 10 | 9 | 7 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| 5.7 ^a | - | - | - | - | - | - | - | - | - | - | 1 | 2 | 4 | 14 | 22 | 27 | 26 | 20 | 19 | 18 | 16 | 13 | 10 | 10 | 9 | 8 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| 12.9 | - | - | - | - | - | - | - | - | 2 | 2 | 2 | 3 | 4 | 6 | 14 | 15 | 15 | 15 | 11 | 11 | 10 | 10 | 10 | 9 | 9 | 6 | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| 13.9 ^a | X | - | - | - | - | - | - | - | 2 | 2 | 4 | 6 | 9 | 9 | 13 | 17 | 17 | 18 | 14 | 13 | 14 | 12 | 11 | 11 | 10 | 9 | 5 | 4 | 3 | 2 | 2 | - | - | - | - | X | X | X | |
| 14.7 ^a | - | - | - | - | - | - | - | - | 2 | 2 | 3 | 5 | 7 | 8 | 11 | 11 | 12 | 12 | 11 | 13 | 15 | 13 | 12 | 13 | 9 | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| 17.8 ^a | - | - | 1 | 2 | 2 | 2 | 4 | 6 | 10 | 12 | 11 | 14 | 23 | 22 | 25 | 24 | 14 | 15 | 19 | 18 | 19 | 17 | 14 | 12 | 9 | 9 | 8 | 4 | 4 | 5 | 8 | 7 | 7 | 3 | 1 | - | - | - | - |
| 23.9 ^a | - | - | - | - | - | - | - | - | - | - | - | 10 | 11 | 11 | 10 | 9 | 8 | 7 | 6 | 6 | 6 | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 25.7 | - | - | 2 | 2 | 2 | 2 | - | - | 2 | 9 | 10 | 13 | 17 | 24 | 15 | 14 | 16 | 16 | 14 | 13 | 11 | 10 | 9 | 9 | 8 | 6 | 5 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| 27.9 | X | X | X | X | X | X | X | X | - | 2 | 3 | 4 | 8 | 10 | 11 | 11 | 13 | 14 | 13 | 15 | 18 | 19 | 14 | 12 | 9 | 5 | 2 | 2 | 2 | - | X | X | X | X | X | X | X | X | |
| 28.7 ^a | - | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 10 | 11 | 13 | 14 | 15 | 15 | 17 | 19 | 27 | 33 | 28 | 21 | 16 | 13 | 10 | 8 | 4 | 3 | 2 | 1 | - | - | - | - | - | - | - | - |
| 29.8 | X | X | X | X | X | X | X | - | - | - | 8 | 9 | 13 | 14 | 14 | 16 | 16 | 17 | 17 | 15 | 13 | 12 | 10 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X |
| 30.8 | - | - | - | - | - | - | - | - | - | 5 | 6 | 9 | 13 | 26 | 24 | 17 | 22 | 21 | 17 | 14 | 13 | 10 | 10 | 6 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 31.7 | - | - | - | - | - | - | - | - | - | 2 | 5 | 10 | 19 | 23 | 20 | 14 | 14 | 14 | 13 | 13 | 12 | 10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| *Oct. 27.7 | X | X | X | X | X | X | - | - | - | 4 | 9 | 14 | 23 | 25 | 24 | 21 | 30 | 20 | 13 | 13 | 14 | 13 | 10 | 8 | 4 | 3 | - | - | - | - | - | - | - | - | X | X | X | X | X |
| 28.9 | - | - | - | - | - | 2 | 2 | 3 | 4 | 8 | 11 | 18 | 23 | 27 | 24 | 21 | 17 | 22 | 17 | 13 | 13 | 13 | 9 | 11 | 11 | 5 | 4 | 2 | - | - | - | - | - | - | - | - | - | - | |
| 31.8 | - | - | - | - | 1 | 3 | 6 | 7 | 8 | 9 | 14 | 15 | 34 | 38 | 36 | 32 | 21 | 19 | 14 | 13 | 13 | 13 | 13 | 11 | 10 | 5 | 4 | 6 | 7 | 4 | 2 | - | - | - | - | - | - | - | |

Table 56a

Coronal observations at Climax, Colorado (6374A), east limb

| Date
GCT | Degrees north of the solar equator | | | | | | | | | | | | | | | | | | 0° | Degrees south of the solar equator | | | | | | | | | | | | | | | | | | |
|-----------------------|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | 90 | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | |
| 1949 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec. 1.7 ^a | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 1 | - | - | 3 | 1 | - | 1 | - | 7 | 5 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | |
| 2.7 ^a | 2 | 2 | 2 | 1 | 1 | - | 1 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | 2 | - | 3 | 1 | 11 | 12 | 4 | 2 | 2 | 2 | 1 | 1 | - | 1 | 2 | 2 | 1 | 1 | 1 | 1 | - | - | - | |
| 3.8 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | - | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 4.7 ^a | - | - | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 1 | - | - | 5 | 3 | 10 | 1 | 12 | 3 | 6 | 4 | - | - | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | - | - | - | |
| 5.7 ^a | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | 3 | 2 | 4 | 5 | 1 | - | - | - | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | - | - | - | |
| 12.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 10 | 9 | 9 | 8 | 5 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 13.9 ^a | X | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 10 | 4 | 3 | 3 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | X | X | X | | |
| 14.7 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | - | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | |
| 17.8 ^a | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | 25 | 19 | 16 | 14 | 9 | 3 | 1 | 1 | - | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 | |
| 23.9 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 25.7 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 16 | 13 | 18 | 8 | 1 | 5 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 27.9 | X | X | X | X | X | X | X | X | 1 | 1 | 2 | 2 | 8 | 11 | 9 | 4 | 2 | 2 | 3 | 4 | 5 | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | X | |
| 28.7 ^a | 1 | 2 | 2 | 2 | 2 | 3 | - | 1 | 2 | 2 | 2 | 1 | 2 | 10 | 9 | - | 4 | 12 | 11 | 12 | 11 | 12 | - | 1 | - | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| 29.8 | X | X | X | X | X | X | X | - | - | - | - | - | - | - | - | - | 1 | 10 | 5 | 10 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | |
| 30.8 | - | - | - | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 4 | 1 | 13 | 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | |
| 31.7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | 1 | 4 | 4 | 3 | 5 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | | |
| *Oct. 27.7 | X | X | X | X | X | X | - | - | - | - | - | - | - | 5 | 4 | 2 | 1 | 10 | 15 | 1 | 2 | 11 | 10 | 6 | 1 | - | - | - | - | - | - | - | X | X | X | X | X | |
| 28.9 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | 10 | 3 | 6 | 9 | 8 | 5 | 1 | 4 | 7 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | | |
| 31.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 4 | 4 | 3 | - | 1 | 5 | 2 | - | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | 2 | - | - | - | | |

*Observations for Oct. 27, 28, and 31 received late.

Table 55b

Coronal observations at Climax, Colorado (5303A), west limb

| Date
GCT | Degrees south of the solar equator | | | | | | | | | | | | | | | | | | 0° | Degrees north of the solar equator | | | | | | | | | | | | | | | | | | | |
|-------------|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|
| | 90 | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | | |
| 1949 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec. 1.7 | - | - | - | - | - | 2 | 4 | 4 | 3 | 2 | 2 | 5 | 7 | 10 | 13 | 14 | 14 | 14 | 13 | 13 | 14 | 15 | 14 | 13 | 10 | 8 | 3 | 7 | 5 | 2 | - | - | - | - | - | - | - | - | |
| 2.7a | - | - | - | - | 1 | 2 | 2 | 2 | 1 | - | - | 2 | 3 | 6 | 9 | 15 | 14 | 14 | 14 | 12 | 13 | 13 | 13 | 12 | 13 | 12 | 7 | 8 | 9 | 4 | 2 | - | - | - | - | - | - | - | |
| 3.8a | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 | 10 | 13 | 14 | 14 | 13 | 12 | 12 | 13 | 14 | 20 | 18 | 12 | 10 | 7 | 5 | - | - | - | - | - | - | - | - | - | |
| 4.7 | - | - | - | - | 1 | 2 | 3 | 3 | 2 | 2 | - | 2 | 9 | 10 | 10 | 13 | 17 | 15 | 15 | 14 | 15 | 24 | 24 | 30 | 21 | 12 | 8 | 7 | 4 | 2 | - | - | - | - | - | - | - | - | |
| 5.7 | - | - | - | - | - | - | - | 2 | 3 | 3 | 3 | 2 | 3 | 8 | 8 | 18 | 20 | 19 | 18 | 19 | 20 | 20 | 24 | 22 | 18 | 14 | 9 | 5 | 2 | 2 | - | - | - | - | - | - | - | - | |
| 12.9 | - | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 10 | 10 | 12 | 14 | 15 | 15 | 14 | 17 | 19 | 18 | 18 | 13 | 8 | 6 | 5 | - | - | - | - | - | - | - | - | | |
| 13.9 | X | X | X | X | X | X | - | - | 2 | 2 | 2 | 2 | 2 | 2 | 5 | 9 | 10 | 10 | 11 | 10 | 10 | 9 | 10 | 10 | 11 | 11 | 6 | 3 | - | X | X | X | X | X | X | X | X | | |
| 14.7 | - | - | - | - | - | - | - | - | 2 | 3 | 4 | 5 | 6 | 9 | 10 | 12 | 15 | 18 | 15 | 11 | 13 | 18 | 18 | 17 | 16 | 14 | 8 | 2 | - | - | - | - | - | - | - | - | - | - | |
| 17.8a | - | - | - | - | - | 1 | 1 | 1 | 3 | 6 | 5 | 5 | 4 | 4 | 10 | 17 | 25 | 24 | 27 | 26 | 26 | 29 | 33 | 25 | 18 | 15 | 3 | - | - | - | - | - | - | - | - | - | - | - | |
| 23.9a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7 | 9 | 10 | 11 | 11 | 12 | 12 | 10 | 9 | 9 | 8 | 5 | - | - | - | - | - | - | - | - | - | - | - | | |
| 25.7a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 3 | 4 | 5 | 12 | 14 | 9 | 9 | 9 | 5 | 3 | - | - | - | - | - | - | - | - | - | - | - | | |
| 27.9 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 28.7a | - | - | - | - | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 7 | 12 | 12 | 13 | 14 | 13 | 13 | 15 | 16 | 14 | 12 | 10 | 8 | 5 | 4 | 3 | 2 | 1 | - | - | - | - | - | - | | |
| 29.8 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 30.8a | - | - | - | - | - | 2 | 2 | 2 | - | - | - | - | 1 | 9 | 11 | 12 | 13 | 14 | 13 | 14 | 13 | 8 | 9 | 10 | 2 | 7 | 3 | - | - | - | - | - | - | - | - | - | - | | |
| 31.7a | - | - | - | 3 | 3 | 4 | 5 | 2 | 2 | 2 | 2 | 3 | 9 | 10 | 10 | 12 | 13 | 15 | 16 | 16 | 17 | 18 | 16 | 15 | 13 | 10 | 9 | 8 | 6 | 3 | 1 | - | - | - | - | - | - | | |
| *Oct. 27.7 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| 28.9 | - | - | - | - | - | - | - | - | - | - | - | 2 | 13 | 15 | 19 | 18 | 21 | 23 | 20 | 17 | 16 | 19 | 14 | 9 | 7 | 4 | 3 | 2 | - | - | - | - | - | - | - | - | - | | |
| 31.8 | - | - | - | - | - | - | - | - | - | - | 2 | 2 | 2 | 9 | 11 | 14 | 17 | 27 | 25 | 21 | 22 | 22 | 20 | 20 | 9 | 4 | 2 | 1 | - | - | - | - | - | - | - | - | - | | |

Table 56b

Coronal observations at Climax, Colorado (6374A), west limb

| Date | Degrees south of the solar equator | | | | | | | | | | | | | | | | | | | 0° | Degrees north of the solar equator | | | | | | | | | | | | | | | | | | | |
|------------|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|--|--|
| GCT | 90 | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | | | | |
| 1949 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec. 1.7 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | - | - | - | - | - | 1 | - | 4 | - | 10 | 4 | - | 10 | 8 | 8 | 1 | - | - | - | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| 2.7a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | - | 2 | 2 | 1 | 4 | 4 | 5 | 8 | 5 | 3 | 2 | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | | |
| 3.8a | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 4 | 4 | 3 | 2 | 2 | 3 | 4 | 7 | 12 | 12 | 10 | 12 | 5 | 3 | 2 | - | - | - | - | - | - | - | - | | | | |
| 4.7 | - | - | - | - | - | - | - | - | - | - | - | 1 | 2 | 3 | 3 | 2 | 1 | 1 | 11 | 12 | 12 | 14 | 12 | 14 | 13 | 14 | 14 | 5 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | | | |
| 5.7 | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 3 | - | - | 10 | 10 | 11 | 10 | 15 | 12 | 11 | 11 | 10 | 7 | 3 | 1 | - | - | - | - | - | - | - | | | | | |
| 12.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 2 | 1 | - | 3 | 10 | 11 | 11 | 2 | - | - | - | - | - | - | - | - | | | | | |
| 13.9 | X | X | X | X | X | X | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 7 | 1 | - | - | 1 | 1 | 2 | - | - | - | X | X | X | X | X | X | X | | | | |
| 14.7 | - | - | - | - | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | - | - | - | - | 8 | - | 9 | 10 | 8 | 1 | 4 | 4 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | | | | |
| 17.8a | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | - | 5 | - | 10 | 13 | - | 1 | 8 | 8 | 7 | - | 1 | 1 | 5 | 5 | 4 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | | | |
| 23.9a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| 25.7a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 4 | 10 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| 27.9 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |
| 28.7a | 2 | 2 | - | - | - | - | - | - | - | - | - | - | 1 | 4 | 2 | 5 | 9 | 2 | 8 | 11 | 9 | 2 | 5 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | | | | |
| 29.8 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |
| 30.8a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 5 | 12 | 7 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | | | | |
| 31.7a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 9 | 11 | 14 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | | | | |
| *Oct. 27.7 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |
| 28.9 | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 9 | 9 | 1 | 1 | 1 | 1 | 1 | - | 1 | 3 | 3 | 3 | 1 | 3 | 2 | | | | |
| 31.8 | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 10 | 14 | 12 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 7 | 1 | | | |

Table 57a

Coronal observations at Climax, Colorado (6704A), east limb

| Date
GCT | Degrees north of the solar equator | | | | | | | | | | | | | | | | | 0° | Degrees south of the solar equator | | | | | | | | | | | | | | | | | | | | |
|-----------------------|------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|
| | 90 | 85 | 80 | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | | 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | | |
| 1949 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dec. 1.7 ^a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 2.7 ^a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 3.8 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 4 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 4.7 ^a | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 4 | 4 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 5.7 ^a | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 12.9 | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 13.9 ^a | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | X | X | X | | | |
| 14.7 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | | |
| 17.8 ^a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | | |
| 23.9 ^a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 25.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 27.9 | X | X | X | X | X | X | X | X | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | X | X | X | X | X | | |
| 28.7 ^a | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 29.8 | X | X | X | X | X | X | X | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | X | | |
| 30.8 | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 31.7 | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Oct. 27.7 | X | X | X | X | X | X | - | - | - | - | - | 1 | 2 | 2 | 3 | 4 | 4 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | X | X | X | X | | | |
| 28.9 | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| 31.8 | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | |

*Observations for Oct. 27, 28, and 31 received late.

Table 58

Particulars of Observations, Climax, Colorado
July--December 1949

| Date
GCT | Green line threshold
intensity at | | | | | | Obs. | Meas. | Date
GCT | Green line threshold
intensity at | | | | | | Obs. | Meas. |
|-------------|--------------------------------------|-----|------|------|------|------|------|-------|-------------|--------------------------------------|-----|------|------|------|------|------|-------|
| | 45° | 90° | 135° | 225° | 270° | 315° | | | | 45° | 90° | 135° | 225° | 270° | 315° | | |
| 1949 | | | | | | | | | 1949 | | | | | | | | |
| Jul. 1.7 | 15 | 12 | 8 | 8 | 8 | 7 | J | E | Aug. 13.7 | 7 | 8 | 7 | 13 | 12 | 12 | F/D | E |
| 2.7 | 8 | 11 | 9 | 10 | - | - | J | E | 14.7 | 5 | 5 | 5 | 5 | 5 | 5 | F | E |
| 3.6 | 8 | 8 | 8 | 10 | 8 | 7 | F | E | 15.6 | 6 | 6 | 6 | 6 | 6 | 6 | J | E |
| 4.7 | 9 | 9 | 8 | 7 | 8 | 8 | J | E | 16.6 | 5 | 5 | 5 | 5 | 5 | 5 | F | E |
| 5.6 | 10 | 9 | 8 | 10 | 9 | 9 | F | E | 17.6 | 7 | 6 | 6 | 5 | 5 | 5 | F | E |
| 6.6 | 9 | 13 | 10 | 7 | 7 | 8 | J | E | 18.6 | 11 | 10 | 9 | 8 | 9 | 9 | J | E |
| 8.8 | 8 | 7 | 7 | - | 14 | - | F/D | E | 19.6 | 7 | 7 | 7 | 6 | 6 | 5 | F | E |
| 9.6 | 8 | 8 | 8 | 7 | 9 | 7 | F | E | 20.6 | 10 | 10 | 9 | 12 | 12 | 12 | J | E |
| 11.8 | 12 | 7 | 11 | 11 | 14 | 14 | F | E | 21.6 | 7 | 8 | 8 | 6 | 6 | 7 | F | E |
| 12.6 | 6 | 6 | 8 | 10 | 11 | 9 | F | E | 22.6 | 7 | 7 | 7 | 7 | 6 | 6 | J | E |
| 13.6 | 9 | 10 | 11 | 7 | 11 | 8 | F/D | E | 23.7 | 7 | 8 | 8 | 8 | 7 | 7 | F | E |
| 14.7 | 9 | 11 | 8 | 8 | 14 | 9 | J | E | 24.7 | 5 | 4 | 4 | 5 | 4 | 5 | F/D | E |
| 15.6 | 14 | 14 | 14 | 14 | 13 | 14 | F | E | 25.9 | 12 | 10 | 8 | 11 | 13 | 15 | J | E |
| 16.6 | 14 | 12 | 12 | 9 | 13 | 9 | J | E | 26.6 | 8 | 8 | 7 | 13 | 7 | 7 | D/F | E |
| 17.6 | 13 | 12 | 12 | 14 | 14 | 14 | F | E | 27.6 | 8 | 8 | 8 | 9 | 9 | 10 | F | E |
| 18.7 | 11 | 12 | 13 | 13 | 12 | 12 | F | E | 29.6 | 10 | 12 | 10 | >15 | 10 | 11 | F | E |
| 19.6 | 9 | 9 | 10 | 11 | 11 | 10 | F/J | E | 30.7 | 15 | 11 | 8 | - | 10 | 12 | D/F | E |
| 20.8 | 13 | 12 | 12 | 12 | 10 | >15 | F | E | Sep. 1.6 | - | 7 | - | - | - | - | J | E |
| 21.6 | 10 | 10 | 10 | 11 | 8 | 10 | F | E | 4.7 | 13 | 10 | 10 | 11 | 12 | 10 | J | E |
| 22.8 | 13 | 15 | 13 | - | 15 | 15 | F | E | 5.7 | 7 | 7 | 7 | 7 | 8 | 6 | J/D | E |
| 23.6 | 10 | 12 | 10 | 11 | 9 | 11 | F | E | 6.7 | 8 | 9 | 10 | 10 | 10 | 9 | F | E |
| 24.6 | 4 | 4 | 4 | 4 | 4 | 4 | F | E | 7.6 | 8 | 10 | 9 | 9 | 10 | 10 | F/J | E |
| 26.6 | 6 | 5 | 6 | 4 | 4 | 4 | F/J | E | 8.6 | 15 | 14 | 13 | 14 | 13 | 14 | F | E |
| 27.6 | 8 | 8 | 8 | 8 | 7 | 6 | F | E | 9.6 | 14 | 11 | 13 | 10 | 11 | 10 | F | E |
| 28.6 | 7 | 6 | 6 | 6 | 7 | 8 | J/D | E | 10.8 | 8 | 11 | 8 | 9 | 15 | 11 | D | E |
| 29.6 | 7 | 6 | 7 | 6 | 6 | 7 | F | E | 11.7 | - | 7 | - | - | - | - | J | E |
| 30.6 | 6 | 8 | 7 | 7 | 9 | 7 | F/D | E | 12.9 | 6 | 6 | 6 | 7 | 6 | 7 | F | E |
| 31.7 | 8 | 9 | 9 | 9 | 10 | 10 | F | E | 14.7 | 5 | 3 | 5 | 4 | 4 | 3 | F | E |
| Aug. 1.9 | 9 | 11 | 10 | - | - | - | F | E | 15.7 | 6 | 6 | 5 | 13 | 6 | 8 | F | E |
| 2.8 | 10 | 9 | 8 | 9 | 8 | 8 | F/D | E | 16.7 | 7 | 7 | 7 | 6 | 5 | 7 | F | F |
| 3.8 | 10 | 7 | 7 | - | 9 | 10 | F | E | 17.7 | 15 | 11 | 12 | 10 | 10 | 9 | D | F |
| 4.7 | 2 | 3 | 3 | 3 | 4 | 2 | D/F | E | 18.7 | >15 | 15 | 13 | 12 | 12 | 15 | D | E |
| 5.6 | 6 | 6 | 8 | 5 | 6 | 6 | F | E | 19.6 | 8 | 8 | 9 | - | 8 | 10 | F | E |
| 6.8 | - | - | - | - | 8 | 13 | F | E | 20.7 | - | - | - | 11 | 12 | 11 | F | E |
| 7.7 | 10 | 7 | 6 | 7 | 7 | 6 | F | E | 21.6 | >15 | >15 | 15 | 15 | 14 | 12 | F | E |
| 8.6 | 9 | 6 | 6 | 9 | 6 | 7 | F | E | 22.8 | 5 | 7 | 7 | 8 | 6 | 6 | F | E |
| 9.8 | 12 | 8 | 8 | 5 | 7 | 6 | F | E | 23.8 | 7 | 5 | 6 | 9 | 10 | 7 | F | E |
| 10.7 | 6 | 5 | 5 | 4 | 5 | 5 | F | E | 24.8 | 15 | 9 | 11 | - | 15 | 11 | F | E |
| 11.6 | 7 | 7 | 6 | 7 | 8 | 7 | F | E | 25.7 | 9 | 9 | 12 | 10 | 11 | 10 | F | E |
| 12.9 | 6 | 6 | 7 | 9 | 7 | 7 | F/D | E | 26.7 | - | >15 | 12 | - | - | - | D | F |

Table 58 (continued)

Particulars of Observations, Climax, Colorado
July--December 1949

| Date
GCT | Green line threshold
intensity at | | | | | | Obs. | Meas. | Date
GCT | Green line threshold
intensity at | | | | | | Obs. | Meas. |
|-------------|--------------------------------------|-----|------|-----|-----|-----|------|-------|-------------|--------------------------------------|-----|------|-----|-----|-----|------|-------|
| | 45° | 00' | 135° | 02' | 25° | 02' | | | | 45° | 00' | 135° | 02' | 25° | 02' | | |
| Sep. 27.7 | 7 | 8 | 8 | 6 | 6 | 5 | F | E | Nov. 9.6 | 5 | 5 | 5 | - | - | 12 | F | E |
| 28.7 | 7 | 10 | 8 | 6 | 6 | 8 | F/D | E | 12.8 | 7 | 6 | 5 | 6 | 7 | 6 | F/D | E |
| 29.8 | - | 6 | 6 | - | - | - | F | E | 13.6 | 8 | 9 | 13 | 6 | 7 | 12 | F | E |
| 30.7 | >15 | 7 | 8 | - | >15 | - | F | E | 14.7 | 3 | 5 | 7 | 5 | 5 | 4 | D | E |
| Oct. 1.6 | 5 | 7 | 7 | - | 6 | 5 | F | E | 15.9 | 8 | 6 | 6 | 7 | 7 | 7 | F | E |
| 2.8 | 5 | 5 | 6 | 7 | 4 | 3 | F/D | E | 16.9 | 11 | 11 | 11 | - | 12 | 12 | D | E |
| 3.8 | 4 | 5 | 4 | 6 | 6 | 6 | F | E | 17.8 | 7 | 6 | 10 | 7 | 6 | 7 | D | E |
| 4.6 | 7 | 10 | 7 | 9 | 5 | 7 | D | E | 19.7 | 6 | 5 | 5 | 5 | 5 | 4 | F | E |
| 5.6 | 5 | 4 | 5 | 5 | 4 | 6 | F | E | 20.7 | 4 | 3 | 4 | 6 | 5 | 4 | F | E |
| 6.7 | 10 | 10 | 10 | 12 | 10 | 10 | F | E | 21.7 | 1 | 2 | 1 | 3 | 2 | 3 | D | E |
| 7.6 | 15 | 14 | 14 | 15 | 14 | 15 | D | E | 22.8 | 6 | 7 | 7 | 13 | 6 | 8 | D | E |
| 8.7 | 15 | 12 | 13 | - | - | 14 | F | E | 25.7 | 3 | 4 | 3 | 4 | 4 | 4 | F | E |
| 11.7 | 6 | 9 | 6 | 5 | 6 | 5 | D | E | 26.8 | 5 | 6 | 5 | 8 | 10 | 6 | F | E |
| 12.7 | 5 | 4 | 5 | 5 | 6 | 6 | F | E | 27.7 | 11 | 7 | 9 | 6 | 8 | 5 | F | E |
| 13.6 | 4 | 4 | 4 | 4 | 4 | 4 | F/D | E | 29.8 | 7 | 7 | 10 | 11 | 11 | 11 | D | E |
| 15.6 | 4 | 4 | 4 | 4 | 4 | 4 | F | E | 30.7 | 4 | 4 | 4 | 6 | 6 | 5 | D | E |
| 18.6 | 4 | 4 | 4 | 5 | 5 | 5 | F | E | Dec. 1.7 | 3 | 3 | 3 | 3 | 3 | 2 | D | E |
| 20.6 | 5 | 6 | 5 | 6 | 6 | 6 | D/F | E | 2.7 | 3 | 3 | 3 | 3 | 2 | 3 | F | E |
| 22.6 | 3 | 3 | 4 | 4 | 4 | 5 | F | E | 3.8 | 11 | 9 | 10 | 9 | 14 | 11 | F | E |
| 24.6 | 6 | 6 | 6 | 6 | 7 | 5 | D | E | 4.7 | 11 | 12 | 8 | 5 | 4 | 5 | F | E |
| 25.9 | 5 | 5 | 5 | 6 | 6 | 6 | D | E | 5.7 | 6 | 6 | 5 | 8 | 7 | 5 | D | E |
| 26.7 | 3 | 4 | 3 | 4 | 3 | 3 | F | E | 12.9 | 7 | 9 | 7 | - | 7 | - | F | E |
| 27.7 | - | 11 | 6 | - | - | - | F | E | 13.9 | 11 | 8 | 6 | >15 | 6 | 14 | F/D | E |
| 28.9 | 6 | 6 | 7 | 7 | 7 | 5 | F | E | 14.7 | 7 | 8 | 10 | 8 | 6 | 6 | D | E |
| 31.8 | 5 | 6 | 5 | 10 | 6 | 5 | F | E | 17.8 | 5 | 6 | 6 | 5 | 5 | 4 | F | E |
| Nov. 1.7 | 4 | 4 | 4 | 4 | 4 | 4 | F | E | 23.9 | >15 | >15 | 11 | 14 | 15 | >15 | D | E |
| 2.7 | 7 | 7 | 7 | 10 | 7 | 7 | D | E | 25.7 | 10 | 9 | 11 | 12 | 12 | 14 | D | E |
| 3.7 | 5 | 5 | 5 | 6 | 6 | 5 | D/F | E | 27.9 | - | 7 | 11 | - | - | - | D | E |
| 4.6 | 8 | 6 | 6 | 5 | 7 | 6 | D | E | 28.7 | 3 | 3 | 3 | 5 | 2 | 3 | F/A | E |
| 5.8 | 6 | 6 | 8 | 6 | 6 | 6 | F | E | 29.8 | - | 14 | 11 | - | - | - | F | E |
| 6.7 | 9 | 13 | 6 | 6 | 5 | 6 | D | E | 30.8 | 12 | 9 | 7 | 6 | 4 | 8 | D | E |
| 7.6 | 6 | 6 | 7 | 7 | 6 | 5 | F | E | 31.7 | 7 | 4 | 4 | 5 | 6 | 5 | D | E |
| 8.7 | 8 | 8 | 7 | 7 | 8 | 8 | D | E | | | | | | | | | |

A - Allen
D - Dolder
E - Evans
F - Fleming
J - Johnson

Table 59

American and Zurich Provisional Relative Sunspot NumbersDecember 1949

| Date | R _A * | R _Z ** | Date | R _A * | R _Z ** |
|------|------------------|-------------------|-------|------------------|-------------------|
| 1 | 187 | 190 | 17 | 125 | 96 |
| 2 | 166 | 158 | 18 | 157 | 100 |
| 3 | 143 | 155 | 19 | 134 | 115 |
| 4 | 137 | 125 | 20 | 118 | 88 |
| 5 | 129 | 108 | 21 | 119 | 92 |
| 6 | 140 | 97 | 22 | 167 | 110 |
| 7 | 163 | 124 | 23 | 162 | 103 |
| 8 | 174 | 120 | 24 | 161 | 119 |
| 9 | 174 | 122 | 25 | 170 | 140 |
| 10 | 164 | 124 | 26 | 171 | 129 |
| 11 | 175 | 137 | 27 | 150 | 107 |
| 12 | 195 | 143 | 28 | 163 | 114 |
| 13 | 189 | 150 | 29 | 138 | 101 |
| 14 | 148 | 105 | 30 | 116 | 90 |
| 15 | 129 | 107 | 31 | 122 | 110 |
| 16 | 129 | 106 | Mean: | 152.1 | 118.9 |

*Combination of 46 observers; see page 9.

**Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa.

Errata: The R_A for September 25, 1949 should have been 158. This makes the mean American relative sunspot number for September 1949, 186.9 instead of 183.7.

Table 60

Preliminary values of mean K-indices, Kw,

from 32 observatories for October and 21 for November:

Preliminary values of International Character-Figures, C, for October and November:

Final magnetically selected days, namely the five quiet, five disturbed and ten quiet days

for October and November 1949

| Gr. | V a l u e s K w | | | | | | | | | | | | | | | | C | | Sel. Days | | |
|------|-----------------|------|------|------|------|------|------|------|------|-------|------|-----|-----|-----|-----|-----|-----|------|-----------|---------|--|
| Day | | | | | | | | | | | | | | | | | | | | | |
| 1949 | O c t | | | | | | | | Sum | N o v | | | | | | | | Sum | Oct Nov | Oct Nov | |
| 1 | 3.3 | 2.1 | 2.3 | 2.7 | 1.7 | 1.3 | 0.6 | 2.1 | 16.1 | 2.5 | 0.8 | 1.9 | 3.3 | 4.9 | 5.6 | 5.4 | 3.2 | 27.6 | 0.6 | 1.7 | Five Quiet |
| 2 | 2.2 | 3.1 | 2.3 | 1.2 | 2.1 | 0.5 | 1.1 | 1.3 | 13.8 | 3.1 | 2.1 | 3.3 | 3.7 | 4.1 | 4.1 | 4.1 | 5.3 | 29.8 | 0.5 | 1.6 | |
| 3 | 0.9 | 0.5 | 0.8 | 1.6 | 1.3 | 0.6 | 0.8 | 2.3 | 8.8 | 4.8 | 3.9 | 2.9 | 1.1 | 1.1 | 1.7 | 2.4 | 4.3 | 21.8 | 0.2 | 1.1 | |
| 4 | 3.2 | 2.4 | 2.7 | 3.1 | 4.2 | 2.9 | 2.8 | 2.4 | 23.7 | 1.3 | 1.3 | 2.1 | 2.0 | 1.8 | 2.7 | 1.9 | 1.0 | 14.1 | 1.2 | 0.6 | |
| 5 | 3.9 | 3.1 | 3.2 | 2.6 | 2.1 | 2.3 | 1.9 | 2.8 | 21.9 | 2.9 | 2.8 | 3.1 | 2.5 | 3.1 | 2.9 | 2.0 | 3.9 | 23.2 | 0.9 | 1.1 | |
| 6 | 1.0 | 1.3 | 2.9 | 3.3 | 3.3 | 3.8 | 3.7 | 3.7 | 23.0 | 3.7 | 2.1 | 1.2 | 1.7 | 1.7 | 1.8 | 1.5 | 1.4 | 15.1 | 1.2 | 0.7 | 25 17
26 25
30 26 |
| 7 | 3.3 | 4.0 | 3.4 | 3.7 | 4.3 | 4.9 | 5.7 | 5.0 | 34.3 | 1.2 | 1.2 | 1.5 | 1.4 | 0.8 | 0.8 | 1.7 | 1.1 | 9.7 | 1.8 | 0.1 | |
| 8 | 5.6 | 3.3 | 2.6 | 3.2 | 4.1 | 4.5 | 3.1 | 2.8 | 29.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.4 | 0.2 | 0.1 | 0.9 | 2.8 | 1.5 | 0.0 | |
| 9 | 4.8 | 3.9 | 2.7 | 2.0 | 2.7 | 3.0 | 2.1 | 1.8 | 23.0 | 0.5 | 1.3 | 2.4 | 2.1 | 1.4 | 1.6 | 2.4 | 1.8 | 13.5 | 1.0 | 0.6 | |
| 10 | 1.1 | 0.8 | 1.2 | 3.3 | 2.0 | 2.4 | 2.0 | 1.5 | 14.3 | 1.5 | 1.3 | 2.1 | 2.2 | 2.4 | 3.1 | 2.3 | 3.9 | 18.8 | 0.6 | 1.1 | |
| 11 | 3.3 | 2.1 | 2.2 | 2.2 | 3.6 | 4.0 | 2.4 | 3.3 | 23.1 | 3.8 | 4.2 | 3.1 | 2.6 | 2.3 | 4.5 | 2.9 | 2.4 | 25.8 | 1.0 | 1.4 | Five Disturbed |
| 12 | 2.4 | 1.6 | 1.9 | 2.2 | 2.4 | 0.8 | 1.4 | 1.9 | 14.6 | 1.8 | 1.7 | 1.7 | 2.4 | 2.5 | 3.0 | 4.5 | 3.4 | 21.0 | 0.5 | 1.1 | |
| 13 | 1.8 | 1.5 | 1.8 | 1.1 | 1.7 | 3.2 | 4.5 | 3.3 | 18.9 | 3.2 | 2.5 | 1.5 | 1.9 | 2.0 | 3.3 | 1.6 | 0.4 | 16.4 | 0.9 | 0.8 | |
| 14 | 3.5 | 3.5 | 3.9 | 5.1 | 4.8 | 6.1 | 6.4 | 6.0 | 39.3 | 1.0 | 2.8 | 2.4 | 2.3 | 2.3 | 3.3 | 2.0 | 3.0 | 19.1 | 1.9 | 0.9 | |
| 15 | 5.1 | 4.5 | 6.1 | 6.6 | 6.2 | 6.3 | 6.9 | 6.2 | 47.9 | 2.4 | 1.3 | 1.2 | 1.2 | 1.5 | 3.2 | 2.9 | 3.1 | 16.8 | 2.0 | 0.9 | |
| 16 | 5.5 | 5.2 | 4.1 | 5.0 | 3.8 | 4.4 | 3.2 | 2.9 | 34.1 | 4.0 | 2.9 | 2.2 | 1.2 | 0.6 | 0.6 | 0.6 | 0.7 | 12.8 | 1.7 | 0.9 | 14 19
15 20
16 30 |
| 17 | 3.2 | 2.0 | 2.8 | 2.6 | 1.8 | 3.2 | 3.2 | 2.7 | 21.5 | 0.4 | 0.2 | 0.5 | 0.8 | 0.7 | 0.3 | 1.2 | 2.1 | 6.2 | 0.8 | 0.1 | |
| 18 | 1.6 | 1.1 | 1.9 | 2.5 | 2.7 | 1.9 | 1.3 | 0.7 | 13.7 | 2.3 | 0.8 | 1.4 | 2.3 | 3.1 | 1.7 | 1.9 | 2.1 | 15.6 | 0.4 | 0.7 | |
| 19 | 0.3 | 1.1 | 3.4 | 3.3 | 3.1 | 3.1 | 2.3 | 2.8 | 19.4 | 2.6 | 1.4 | 3.0 | 2.8 | 3.1 | 4.3 | 6.0 | 5.9 | 29.1 | 0.9 | 1.7 | |
| 20 | 2.5 | 1.5 | 1.0 | 1.9 | 2.8 | 1.9 | 2.8 | 3.2 | 17.6 | 5.4 | 4.3 | 4.2 | 2.6 | 4.5 | 3.5 | 3.3 | 2.9 | 30.7 | 0.7 | 1.5 | |
| 21 | 1.8 | 2.9 | 2.2 | 2.8 | 2.5 | 2.7 | 1.6 | 0.6 | 17.1 | 3.1 | 1.4 | 1.4 | 2.0 | 2.7 | 3.7 | 4.9 | 2.1 | 21.3 | 0.5 | 1.1 | Ten Quiet |
| 22 | 1.8 | 0.8 | 1.5 | 2.1 | 1.9 | 1.7 | 3.5 | 5.1 | 18.4 | 1.2 | 0.5 | 0.5 | 1.2 | 1.3 | 2.4 | 2.5 | 1.9 | 11.5 | 1.1 | 0.6 | |
| 23 | 2.6 | 1.3 | 1.8 | 2.8 | 2.8 | 2.9 | 4.5 | 3.5 | 22.2 | 2.0 | 1.9 | 0.8 | 1.3 | 0.8 | 1.3 | 3.5 | 2.3 | 13.9 | 1.0 | 0.9 | |
| 24 | 4.5 | 4.0 | 2.8 | 2.5 | 1.5 | 2.0 | 1.7 | 1.9 | 20.9 | 2.3 | 2.3 | 1.0 | 1.2 | 0.9 | 0.8 | 0.2 | 0.1 | 8.8 | 0.9 | 0.4 | |
| 25 | 2.3 | 1.3 | 1.3 | 2.2 | 1.7 | 0.7 | 0.6 | 0.5 | 10.6 | 0.1 | 0.2 | 0.8 | 1.3 | 1.7 | 0.7 | 2.0 | 1.1 | 7.9 | 0.2 | 0.2 | |
| 26 | 1.7 | 0.8 | 0.9 | 1.2 | 0.7 | 1.3 | 3.1 | 1.9 | 11.6 | 0.6 | 0.3 | 0.6 | 0.7 | 1.1 | 0.4 | 1.5 | 2.5 | 7.7 | 0.4 | 0.2 | 10 8
12 9
18 17
21 22
25 24
26 25
30 26
31 28 |
| 27 | 1.2 | 3.7 | 2.7 | 2.5 | 4.4 | 4.2 | 5.2 | 4.9 | 28.8 | 2.3 | 1.8 | 2.2 | 2.1 | 2.1 | 4.0 | 2.9 | 2.1 | 19.5 | 1.6 | 0.9 | |
| 28 | 4.8 | 4.3 | 3.6 | 2.9 | 3.0 | 3.3 | 3.0 | 2.5 | 27.4 | 1.6 | 1.1 | 1.4 | 1.2 | 1.0 | 0.3 | 0.2 | 2.3 | 9.1 | 1.3 | 0.2 | |
| 29 | 2.2 | 2.0 | 2.4 | 2.6 | 3.2 | 2.3 | 2.4 | 3.2 | 20.3 | 4.9 | 3.5 | 2.5 | 3.0 | 3.0 | 4.0 | 5.0 | 3.9 | 29.8 | 0.8 | 1.5 | |
| 30 | 0.6 | 1.3 | 1.9 | 2.2 | 2.0 | 1.8 | 1.5 | 2.2 | 13.5 | 3.6 | 3.0 | 3.4 | 4.7 | 4.7 | 5.3 | 4.9 | 3.8 | 33.4 | 0.3 | 1.6 | |
| 31 | 3.3 | 2.5 | 1.8 | 1.3 | 0.8 | 1.5 | 2.0 | 1.4 | 14.6 | | | | | | | | | | 0.5 | | |
| Mean | 2.75 | 2.45 | 2.75 | 2.82 | 2.68 | 2.34 | 1.87 | 2.12 | 2.61 | 2.22 | 0.93 | | | | | | | | | | |
| | 2.37 | 2.72 | 2.76 | 2.79 | | 1.84 | 1.98 | 2.50 | 2.50 | | 0.87 | | | | | | | | | | |

| | January 1943 | | | | | | February 1943 | | | | | | March 1943 | | | | | | | | | | | | | | |
|----|--------------|---|---|---|---|---|---------------|---|-----|----------|---|---|------------|---|---|---|---|-----|----------|---|---|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 0o0o0o0+ | | | | | | | | 7+ | 3-1o1o1- | | | | | | | | 11+ | 0o2-1-1o | | | | | | | | 11+ |
| 2 | 2-0+2-1+ | | | | | | | | 11+ | 1+1+2o1+ | | | | | | | | 12+ | 1+3-5+4+ | | | | | | | | 20o |
| 3 | 1+2o1-1o | | | | | | | | 15- | 2+3-3-3- | | | | | | | | 20- | 1o1o2o3+ | | | | | | | | 17- |
| 4 | 3-3-3-5o | | | | | | | | 31o | 3o4o3-4o | | | | | | | | 22+ | 3-3o4o4o | | | | | | | | 28- |
| 5 | 5-3+3+3- | | | | | | | | 24+ | 3o2o3o3- | | | | | | | | 21o | 3+4-4o3- | | | | | | | | 25- |
| 6 | 3+2+3-3- | | | | | | | | 20+ | 4-2-2+2+ | | | | | | | | 21o | 3-1+2o1o | | | | | | | | 15- |
| 7 | 1+1o1-0+ | | | | | | | | 6- | 2o2o1+1o | | | | | | | | 11+ | 2o2-1o1o | | | | | | | | 13- |
| 8 | 0+1+0o0o | | | | | | | | 10- | 2o2-1o1o | | | | | | | | 12- | 3+3+2o2o | | | | | | | | 18+ |
| 9 | 3o3-3+3+ | | | | | | | | 16o | 2o2-2o1+ | | | | | | | | 12+ | 3+2-2o2o | | | | | | | | 16o |
| 10 | 1-1+1+1+ | | | | | | | | 11+ | 0o1-1o1o | | | | | | | | 8- | 2-1-1-1o | | | | | | | | 9o |
| 11 | 1+1+1o0+ | | | | | | | | 8+ | 3-3o4-2+ | | | | | | | | 15+ | 3o2o1-1+ | | | | | | | | 20+ |
| 12 | 1+3-3-1o | | | | | | | | 11o | 1+2o1-1o | | | | | | | | 11- | 4o5-2-3o | | | | | | | | 28- |
| 13 | 2-1+1o1- | | | | | | | | 8o | 2+3o4-3- | | | | | | | | 22- | 2+1o0+0o | | | | | | | | 7o |
| 14 | 0+1o1-0o | | | | | | | | 3- | 2+2o2o2+ | | | | | | | | 11+ | 2+3+2+2+ | | | | | | | | 16o |
| 15 | 0o0+0+0o | | | | | | | | 3+ | 2-1o2o2o | | | | | | | | 9+ | 1o1-0o1- | | | | | | | | 6- |
| 16 | 0+0o0+1- | | | | | | | | 10- | 0+0+1o0+ | | | | | | | | 8- | 2+3o4o6- | | | | | | | | 30+ |
| 17 | 3+2o3o5+ | | | | | | | | 29+ | 3o5-5+7- | | | | | | | | 35+ | 4o1o2-4- | | | | | | | | 17- |
| 18 | 3-2+3+2+ | | | | | | | | 18o | 3+4-4-3o | | | | | | | | 21o | 1+1o3-2o | | | | | | | | 13+ |
| 19 | 2o2o2o1o | | | | | | | | 15o | 3+2-2+2+ | | | | | | | | 17- | 1o1-2o2+ | | | | | | | | 18- |
| 20 | 2-2+4-3+ | | | | | | | | 32- | 0o2o0+2+ | | | | | | | | 9+ | 2+3o5o4+ | | | | | | | | 29- |
| 21 | 5-4o4o5- | | | | | | | | 31+ | 0o0o1o1+ | | | | | | | | 6+ | 2-2+2o3+ | | | | | | | | 17- |
| 22 | 6-2+3o4- | | | | | | | | 31- | 0+0o0+2o | | | | | | | | 8o | 2-2+2-3o | | | | | | | | 23+ |
| 23 | 3+3-2+2+ | | | | | | | | 18o | 2-2-2o2o | | | | | | | | 16o | 5+5o5-4- | | | | | | | | 31+ |
| 24 | 3+3-2-3o | | | | | | | | 19o | 3-3o2o2o | | | | | | | | 16+ | 2-2-3o2- | | | | | | | | 16- |
| 25 | 2o2-2o1o | | | | | | | | 10o | 1-2o0+1+ | | | | | | | | 17- | 1o3o1+1- | | | | | | | | 8- |
| 26 | 3o4-3+4+ | | | | | | | | 23- | 5o5o3-3o | | | | | | | | 28- | 2o2-2-1- | | | | | | | | 10+ |
| 27 | 2o1o0+2o | | | | | | | | 13o | 4-4-1+3- | | | | | | | | 18- | 2-0+0+1o | | | | | | | | 9+ |
| 28 | 0+2o2+3o | | | | | | | | 17o | 1+2o1+1o | | | | | | | | 8+ | 0o0o1o1o | | | | | | | | 6o |
| 29 | 2o1o1-1o | | | | | | | | 11- | | | | | | | | | | 2+3o2-2+ | | | | | | | | 30- |
| 30 | 4-3o2-1- | | | | | | | | 14- | | | | | | | | | | 5o5-3+4- | | | | | | | | 31+ |
| 31 | 1o2-1o1o | | | | | | | | 11+ | | | | | | | | | | 4o3+2o1o | | | | | | | | 24o |

| April 1943 | | | | | | | | | May 1943 | | | | | | | | | June 1943 | | | | | | | | | |
|------------|----------|----------|-----|----------|----------|-----|----------|----------|----------|---|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 3+4-3-2+ | 2o3o3o2+ | 22+ | 4+6+6+6o | 4o5-5+6- | 43- | 2-2-2+2+ | 2-1o2+3o | 16o | | | | | | | | | | | | | | | | | | |
| 2 | 4-3-4-1+ | 3o2+1+3- | 21- | 5o3+4o4+ | 3o4+2o2o | 28o | 1o1+1+3o | 3-1o1o1o | 12+ | | | | | | | | | | | | | | | | | | |
| 3 | 6-6-5-4o | 3+4+3o4o | 35- | 3o1-1-1o | 1+4-2o4o | 16+ | 1-1o2+1- | 1o1o1-1+ | 9- | | | | | | | | | | | | | | | | | | |
| 4 | 4o4o3o3o | 4o3o5-3- | 28+ | 2+3+3-1+ | 1+2o2-2+ | 17o | 2-2-1+1o | 1+1-0o0o | 8- | | | | | | | | | | | | | | | | | | |
| 5 | 5o3+3-3o | 3o6-3-4+ | 30- | 2-2-2+3o | 3o3-2-2- | 18- | 2-1o1-1o | 2-2-2o2+ | 12o | | | | | | | | | | | | | | | | | | |
| 6 | 4o2+4o5- | 5+4o2+4- | 30+ | 3-1-0o2- | 2-2-0+1- | 9+ | 4-4o3o1+ | 2-1o1-1- | 16o | | | | | | | | | | | | | | | | | | |
| 7 | 5o4+3-2+ | 3+2-3+2+ | 25o | 2+3-1+1o | 1o1-1-1+ | 11o | 0+1+1+3o | 4o3o2o4- | 19- | | | | | | | | | | | | | | | | | | |
| 8 | 3o2o3o2o | 2-1-1-1- | 14- | 1o1-0o0+ | 1-1o1-0+ | 5- | 3+4o4-5- | 4+5-4o4o | 32o | | | | | | | | | | | | | | | | | | |
| 9 | 1-1-0+0+ | 1o1-2-2- | 7o | 0+1-1o1- | 1-1o1-1- | 6- | 3o5-4-5- | 3+3+3o3- | 28+ | | | | | | | | | | | | | | | | | | |
| 10 | 2-4o4o4+ | 4+2+5-4+ | 30- | 1-0+1o1+ | 2-3-2-1o | 10+ | 1+4-4o4- | 2+4o1+4o | 24+ | | | | | | | | | | | | | | | | | | |
| 11 | 5o6+6o4o | 3-3-3+4- | 34- | 1-1+2-1- | 1o3+2o3- | 13+ | 1-0+2-3+ | 4+4o2o2+ | 19- | | | | | | | | | | | | | | | | | | |
| 12 | 2+1-1-1o | 2-1o1o1- | 9o | 2+5-3+2- | 1+1-2-2- | 17+ | 1o3-4-3o | 3o2-3o2o | 20o | | | | | | | | | | | | | | | | | | |
| 13 | 0o1o1o1- | 0+1+0+1+ | 6o | 2o2o4o4- | 4-4o2-3+ | 24+ | 6-4-2o2- | 3o3+4o3+ | 27- | | | | | | | | | | | | | | | | | | |
| 14 | 0+1-0+1- | 1-1o1-1- | 5o | 4-3+2-3+ | 1+2o1+3o | 20- | 4o3+3+3+ | 2+2+1o1- | 20+ | | | | | | | | | | | | | | | | | | |
| 15 | 0+1o1o2o | 2+3-3-3o | 15o | 6-5+4o4- | 2+2o2+3o | 28+ | 1-2-1+1o | 1-0+1-1+ | 8- | | | | | | | | | | | | | | | | | | |
| 16 | 3o3o4-4- | 3-2+3-2- | 23- | 1-0+1-4- | 4-3o4o2o | 18o | 1o1-1-1o | 1-1-0+1o | 6o | | | | | | | | | | | | | | | | | | |
| 17 | 2+2-3o2+ | 2-2o1o1+ | 15+ | 3+2+3o3o | 2+4-6-5- | 28o | 1+1o0+0o | 1-1-0+0o | 4+ | | | | | | | | | | | | | | | | | | |
| 18 | 2-3o2o1+ | 1-1+1-1o | 12- | 6-6-5o5- | 4o3o3o4o | 35o | 0o1-1-1o | 1-1-1o1o | 6- | | | | | | | | | | | | | | | | | | |
| 19 | 2+2-1-1+ | 2-1-1o0+ | 10- | 4-5o4o2o | 3o2o3o3- | 25+ | 1o1+1o3o | 3-3+3-4+ | 19+ | | | | | | | | | | | | | | | | | | |
| 20 | 0o2-1+3- | 3+3+1o3- | 16o | 2o1o1o1+ | 2o1-1o1+ | 10+ | 5+5-2+3+ | 3-3-3-4- | 27+ | | | | | | | | | | | | | | | | | | |
| 21 | 4+4+4-5- | 3+3+4-1+ | 29- | 1+1o2-2- | 1o1o1-0o | 8+ | 4-3o3-4- | 4o4+3+4- | 28+ | | | | | | | | | | | | | | | | | | |
| 22 | 1+2o4-3- | 1o1+0+1+ | 14- | 0+1-1+1o | 0+0+0+1o | 5+ | 3o4+5-3+ | 3-3o4-3- | 27+ | | | | | | | | | | | | | | | | | | |
| 23 | 0o1-1-1- | 1-1-0+1- | 4+ | 1o2o2+3o | 2+2o2+3o | 18o | 3o3+3o3- | 4+4o4-4o | 28o | | | | | | | | | | | | | | | | | | |
| 24 | 0+0+0+1- | 1o0+0+1- | 4- | 6o4+3-2+ | 3o4-4+4+ | 31- | 4o4+4+3+ | 3+4+3-3- | 30- | | | | | | | | | | | | | | | | | | |
| 25 | 3-3o2+2- | 2-3o3-5- | 22- | 4+3o4+3- | 4+3-3+3- | 27+ | 3o3o3o3o | 2+3o2+3o | 23- | | | | | | | | | | | | | | | | | | |
| 26 | 6o6-5+4- | 3-3-3-3+ | 32o | 2+2-1+1+ | 2-2+3-3- | 16o | 2-2o1o1o | 1+1o1o2o | 11o | | | | | | | | | | | | | | | | | | |
| 27 | 4-1+2-1- | 2-2+1+0+ | 13o | 4-3+3o1+ | 1+2o3-4+ | 22- | 3-1o1+2- | 1+2-1o4- | 14+ | | | | | | | | | | | | | | | | | | |
| 28 | 1o2-1o0+ | 1-1o3-3+ | 12- | 5o5-4o4- | 3o4o4-4o | 32o | 2+3+5-3o | 4-3o4o3o | 27o | | | | | | | | | | | | | | | | | | |
| 29 | 3+2o4-2+ | 3-2+2o2+ | 21- | 3-4-3-3- | 2o2-3-2- | 20- | 3-3+2o1+ | 1-1-0+0+ | 11+ | | | | | | | | | | | | | | | | | | |
| 30 | 3-4+3+5o | 3o2+3-3- | 26o | 2+2o3+1o | 2-1+2-2o | 15+ | 1o1+1o1+ | 1+1-0+1- | 8- | | | | | | | | | | | | | | | | | | |
| 31 | | | | 1o1-1+1o | 1+1+1+2o | 10o | | | | | | | | | | | | | | | | | | | | | |

| | July 1943 | | | | | | | | | August 1943 | | | | | | | | | September 1943 | | | | | | | | |
|----|-----------|----------|---|---|---|---|---|---|-----|-------------|----------|---|---|---|---|---|---|-----|----------------|----------|---|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 1-10200+ | 1-0+0+1- | | | | | | | 60 | 3+2+3+30 | 404+4+3- | | | | | | | 27+ | 6-4+4-4+ | 4+505-3- | | | | | | | 35- |
| 2 | 0+102-10 | 100+103- | | | | | | | 90 | 303+5-30 | 4-405-4- | | | | | | | 300 | 5-5-3+40 | 5+3+5-4+ | | | | | | | 34+ |
| 3 | 3-4+4+3- | 2+202-2- | | | | | | | 22- | 6-4-404- | 402+4+4- | | | | | | | 31+ | 5-5+5+5+ | 5+5-3+6- | | | | | | | 40- |
| 4 | 20202+3+ | 4-5-5+4+ | | | | | | | 28- | 304-4-3+ | 4+4+4+3+ | | | | | | | 300 | 3+50505- | 403+4-20 | | | | | | | 310 |
| 5 | 5+5+5040 | 5-505+50 | | | | | | | 40- | 4+3+403+ | 4-30302+ | | | | | | | 270 | 405-3040 | 3-404-30 | | | | | | | 290 |
| 6 | 5+505-6- | 5-404040 | | | | | | | 37+ | 2+204-3- | 20304+20 | | | | | | | 220 | 3+30303- | 1+3-2+1- | | | | | | | 190 |
| 7 | 3+3+304- | 2+303-3+ | | | | | | | 25- | 2020306- | 403+1-10 | | | | | | | 22- | 3+2+1+1+ | 2-1+2-20 | | | | | | | 150 |
| 8 | 3+305-5- | 40303+2- | | | | | | | 28- | 3-4+3+5+ | 7-7+6+7+ | | | | | | | 43+ | 3-203-3- | 2+4+6050 | | | | | | | 28- |
| 9 | 303+6-5- | 4-4+5+3+ | | | | | | | 33+ | 8-6+4+3- | 30302+40 | | | | | | | 33+ | 605-4-4+ | 403+405+ | | | | | | | 35+ |
| 10 | 305-4-5- | 404-2+2- | | | | | | | 28- | 4-3+202- | 101-102+ | | | | | | | 16- | 5+5-4-50 | 4-403040 | | | | | | | 33+ |
| 11 | 2+4-5-4- | 403-2+4- | | | | | | | 270 | 2+2-2-1+ | 10102-20 | | | | | | | 13- | 5-5-3+2+ | 4-4-304+ | | | | | | | 30- |
| 12 | 3+4-4-3+ | 203-303+ | | | | | | | 250 | 2+1+2+1- | 101+2040 | | | | | | | 150 | 402+204+ | 20304+30 | | | | | | | 250 |
| 13 | 4030302+ | 304-4-2+ | | | | | | | 250 | 3+50506- | 6-4+5+60 | | | | | | | 40+ | 5-503040 | 3+4+4+2+ | | | | | | | 310 |
| 14 | 2+0+0+1- | 0+1-2-0+ | | | | | | | 7- | 4+30304- | 4040505- | | | | | | | 32- | 40403-4+ | 3+2+4040 | | | | | | | 29- |
| 15 | 1-1+2020 | 2+2+2+20 | | | | | | | 150 | 30303+2+ | 3+404+40 | | | | | | | 27+ | 403-3020 | 2+3-304- | | | | | | | 23+ |
| 16 | 3030202- | 2+203-2+ | | | | | | | 190 | 4-3+505+ | 3+4-303+ | | | | | | | 31- | 2+201+2- | 2+403-2+ | | | | | | | 19- |
| 17 | 402-1010 | 201+3-3+ | | | | | | | 170 | 5+5-503- | 3-3-4-4- | | | | | | | 30+ | 3-403-10 | 2-2-203- | | | | | | | 18+ |
| 18 | 2+302+40 | 4+4-4+3+ | | | | | | | 27+ | 3+4-506+ | 50403+2- | | | | | | | 32+ | 2-2+1010 | 1-0+205- | | | | | | | 14- |
| 19 | 3+3+4-2- | 20303-3+ | | | | | | | 230 | 102+5-50 | 40505050 | | | | | | | 320 | 4-4-3+3- | 201+2-1+ | | | | | | | 20- |
| 20 | 302-2020 | 202+2-20 | | | | | | | 17- | 6-5-5-5+ | 4-304-4+ | | | | | | | 350 | 10201010 | 3-202-3- | | | | | | | 140 |
| 21 | 3+3-3030 | 3+302+30 | | | | | | | 24- | 405-403+ | 3-2-1+2+ | | | | | | | 240 | 4-3+405- | 4-304030 | | | | | | | 29+ |
| 22 | 3-3-3+3+ | 3-2+3-30 | | | | | | | 23- | 2010101- | 1+1-1+1+ | | | | | | | 9+ | 405-4020 | 40402+2+ | | | | | | | 27+ |
| 23 | 2-2-3-2- | 2-202-1+ | | | | | | | 14+ | 2-201010 | 301+3-40 | | | | | | | 17- | 3+4-3+30 | 2-202020 | | | | | | | 210 |
| 24 | 2-2+2-1- | 101-0+00 | | | | | | | 8+ | 4-5+5020 | 2+4-2+3- | | | | | | | 270 | 3+201+10 | 101-202- | | | | | | | 130 |
| 25 | 1-1+1-0+ | 1-1-1-1+ | | | | | | | 6+ | 404+3+2+ | 3-3+303+ | | | | | | | 26+ | 2-4-403+ | 3-20101+ | | | | | | | 20- |
| 26 | 1+102-2+ | 2-103+20 | | | | | | | 14+ | 3+4-5030 | 2+3-302- | | | | | | | 25- | 204-4+40 | 605+5-5- | | | | | | | 35- |
| 27 | 3+2+2020 | 3-2+101+ | | | | | | | 170 | 1+2+101- | 101-2-1+ | | | | | | | 100 | 5-4+4+5- | 404-5+5- | | | | | | | 36- |
| 28 | 0+1+1+1+ | 2-10101+ | | | | | | | 9+ | 2-302+40 | 705+4-60 | | | | | | | 330 | 606-5-4+ | 5+4+3+50 | | | | | | | 39- |
| 29 | 2-20101- | 000+0+1+ | | | | | | | 7+ | 5-4+4040 | 5+5+5-3- | | | | | | | 350 | 406-6-5+ | 7-5-605- | | | | | | | 43- |
| 30 | 2+3+305- | 4-40403- | | | | | | | 28- | 5+6+6-6- | 7-607-70 | | | | | | | 49+ | 5+6+5-70 | 50405+60 | | | | | | | 44- |
| 31 | 302-2+40 | 2+1+2+40 | | | | | | | 210 | 708+7+7+ | 8-706+5- | | | | | | | 56- | | | | | | | | | |

| | October 1943 | | | | | | | | November 1943 | | | | | | | | December 1943 | | | | | | | | | | |
|----|--------------|----------|---|---|---|---|---|---|---------------|----------|----------|---|---|---|---|---|---------------|-----|----------|----------|---|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 506-4040 | 5+5-5-5+ | | | | | | | 39- | 4-3+404+ | 504+4+2+ | | | | | | | 31+ | 0000102- | 2-303-3+ | | | | | | | 13+ |
| 2 | 6-404-5- | 5-506-5- | | | | | | | 380 | 2+2-2+2+ | 0+201+1- | | | | | | | 130 | 2-3-2-20 | 205-5+40 | | | | | | | 240 |
| 3 | 4+405+5+ | 5-5+4-5+ | | | | | | | 380 | 102-1+0+ | 1-0+1020 | | | | | | | 8+ | 3+404-20 | 4+5-4+40 | | | | | | | 30+ |
| 4 | 4+4+4-4+ | 4-4-202+ | | | | | | | 28+ | 101+1-1- | 1+101-20 | | | | | | | 9- | 4-3+3-3- | 40304-4- | | | | | | | 27- |
| 5 | 3+3-201+ | 2-102+2- | | | | | | | 160 | 203+3030 | 4-3-2+2- | | | | | | | 22- | 3050302+ | 303+2+2- | | | | | | | 24- |
| 6 | 203-2-10 | 1-1-0+1- | | | | | | | 10- | 203+302+ | 4-605-5- | | | | | | | 30- | 0+00000+ | 001-000+ | | | | | | | 2- |
| 7 | 3+2+1020 | 403+304+ | | | | | | | 23+ | 3+2+4030 | 1010403+ | | | | | | | 220 | 1+1-1-2- | 1+1-0+0+ | | | | | | | 70 |
| 8 | 402+3-6- | 5-4+4050 | | | | | | | 33- | 2+3+4-3+ | 202+203- | | | | | | | 22- | 102-101+ | 1+2+1+0+ | | | | | | | 10+ |
| 9 | 4-506+5- | 4-5+5+40 | | | | | | | 380 | 3+3-401- | 102-2020 | | | | | | | 17+ | 203-302+ | 2-3-2-2- | | | | | | | 18- |
| 10 | 30304-2+ | 3+6-3-2- | | | | | | | 25+ | 2+1+1+1+ | 1+2-4030 | | | | | | | 16+ | 3-2-2-20 | 3-2+1-10 | | | | | | | 15- |
| 11 | 202-3+3+ | 302-3030 | | | | | | | 210 | 1+2-100+ | 0+0+100+ | | | | | | | 6+ | 1-1-1-1+ | 1010100+ | | | | | | | 7- |
| 12 | 3+4-3+20 | 0+2-3030 | | | | | | | 20+ | 000+0+20 | 2+2-1+1- | | | | | | | 9- | 1-000+1- | 0+101+2- | | | | | | | 60 |
| 13 | 3-3-1010 | 2+101-1+ | | | | | | | 13- | 0000001- | 1-1+2020 | | | | | | | 7- | 301+0+1- | 0+00201- | | | | | | | 8+ |
| 14 | 201-1-10 | 1-1-201- | | | | | | | 8+ | 1+201+0+ | 1-2-2-1- | | | | | | | 10- | 000+1-2- | 304-1+1+ | | | | | | | 120 |
| 15 | 0+0+001+ | 100+1-0+ | | | | | | | 4+ | 0+100+0+ | 1-1+201+ | | | | | | | 7+ | 2-0+0+1- | 0+103-4- | | | | | | | 11- |
| 16 | 102-1-1- | 1+101-20 | | | | | | | 90 | 3-402-2- | 303-303+ | | | | | | | 220 | 4-20506- | 6-4+4+4+ | | | | | | | 350 |
| 17 | 1-2+3+4- | 3+202+30 | | | | | | | 21- | 100+1-0+ | 0+0+0+1- | | | | | | | 40 | 50504-50 | 4+5-3040 | | | | | | | 35- |
| 18 | 100+1010 | 103-3-30 | | | | | | | 13- | 101+2-20 | 3-303-1+ | | | | | | | 16- | 4+4-3+3+ | 5-30402+ | | | | | | | 29- |
| 19 | 303-2+2+ | 2+2-2010 | | | | | | | 17+ | 1+5-7-60 | 604+4060 | | | | | | | 390 | 403+4+4+ | 40606040 | | | | | | | 360 |
| 20 | 1-1+101+ | 2-4-5+30 | | | | | | | 180 | 506-5+50 | 405+4+30 | | | | | | | 38- | 5-3-4-4+ | 4+5-4-5- | | | | | | | 33- |
| 21 | 4+3-201- | 0+0+1-1- | | | | | | | 12- | 5+5-5-5- | 5-504+4- | | | | | | | 370 | 5-3-2-3- | 3+2-5050 | | | | | | | 27- |
| 22 | 1+2-3+50 | 4-4+3+5- | | | | | | | 27+ | 30404-3+ | 40504-4- | | | | | | | 30+ | 4-3+3-40 | 3+403+4- | | | | | | | 280 |
| 23 | 4+3-2-10 | 301+103- | | | | | | | 18- | 4-4+4040 | 4+506060 | | | | | | | 37+ | 2+3-303+ | 4-20302+ | | | | | | | 22+ |
| 24 | 4-3+307- | 5+5-5-5- | | | | | | | 360 | 5040404- | 505-5040 | | | | | | | 35+ | 2+3-2020 | 202+2+2- | | | | | | | 17- |
| 25 | 6-4+504+ | 5-4+5-40 | | | | | | | 370 | 404+4+5- | 50506050 | | | | | | | 38+ | 1+4+2+3+ | 10103-2+ | | | | | | | 18+ |
| 26 | 506-6-5+ | 6-5-4+40 | | | | | | | 40+ | 305-4+3+ | 5+6-5-5+ | | | | | | | 36+ | 3+1+2-3- | 304+3+3+ | | | | | | | 230 |
| 27 | 4-4+504- | 203+5+5+ | | | | | | | 33- | 5+6+6-4+ | 4+30404+ | | | | | | | 37+ | 1+3-2-20 | 2+101+10 | | | | | | | 13+ |
| 28 | 6-604+4- | 4-5+5+4+ | | | | | | | 38- | 404-5-50 | 2-204030 | | | | | | | 280 | 201+200+ | 0000000+ | | | | | | | 60 |
| 29 | 5-5-4+5- | 5+4+5+40 | | | | | | | 37+ | 40504+3+ | 4+4-4020 | | | | | | | 31- | 10202-30 | 1-3-302- | | | | | | | 16- |
| 30 | 4+405-40 | 50404-5- | | | | | | | 34+ | 202-201+ | 303+1-1- | | | | | | | 15- | 101-1-1- | 3-2-1-10 | | | | | | | 90 |
| 31 | 4-5+4-50 | 504-5040 | | | | | | | 35+ | | | | | | | | | | 1-1-2+30 | 303+305- | | | | | | | 21- |

| | January 1944 | | | | | | | | February 1944 | | | | | | | | March 1944 | | | | | | | | | | |
|----|--------------|----------|-----|---|---|---|---|---|---------------|----------|----------|-----|---|---|---|---|------------|-----|----------|----------|-----|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 3o2-2o2+ | 5o4+4-3- | 25- | | | | | | 25- | 2+1o0o1o | 1+1-2-1- | 9- | | | | | | 9- | 2-2+2+1- | 0+1-1o2o | 11o | | | | | | |
| 2 | 2o2o2o1- | 2-2+2+1+ | 14+ | | | | | | 14+ | 0+3-3-1+ | 1-1-1+2o | 12- | | | | | | 12- | 3-3+1-1+ | 3-2o3o1+ | 17o | | | | | | |
| 3 | 1o0+1-1o | 2o0o0+0+ | 6- | | | | | | 6- | 1o1o0+1- | 1-0+1o1- | 6- | | | | | | 6- | 2+2o1+1o | 0o0+0+1- | 8o | | | | | | |
| 4 | 2o2o1o1- | 0+1+2-3- | 12- | | | | | | 12- | 1-2o1+2- | 3-3-3-1o | 15- | | | | | | 15- | 2+3-5-6- | 5-3o3-3- | 28+ | | | | | | |
| 5 | 5-3o3-3- | 1o3+2+2o | 22- | | | | | | 22- | 0+1o2-1- | 1o1+2o2o | 10o | | | | | | 10o | 2-1o1-2o | 2o3+3o3- | 16+ | | | | | | |
| 6 | 1-1-0+0+ | 2-1+2+3- | 10o | | | | | | 10o | 2o1-1-1o | 1o1-1-0+ | 7o | | | | | | 7o | 3+5-3o4- | 3+3o4+3+ | 29- | | | | | | |
| 7 | 2o2o1o1o | 1-1+1o1o | 10o | | | | | | 10o | 2o2o3+5o | 6o5+5o5+ | 34o | | | | | | 34o | 5-5-4-3+ | 5o5+2o3+ | 32o | | | | | | |
| 8 | 1o2-1+2- | 1o2o2-1- | 11o | | | | | | 11o | 5o4o4-3o | 4-4-4o5+ | 32+ | | | | | | 32+ | 2+4-2+3- | 4+4-5o3o | 27o | | | | | | |
| 9 | 3-1+0+1o | 1-2+1-2+ | 11+ | | | | | | 11+ | 1+3-5-4- | 4+4o3+2+ | 26+ | | | | | | 26+ | 4+5-2+5o | 4o4o4-4o | 32o | | | | | | |
| 10 | 1+1o2-2o | 2o2+3-6- | 19- | | | | | | 19- | 3-4o4-4+ | 3o3+4o2+ | 27+ | | | | | | 27+ | 4o5-5o5- | 5+5-5-4+ | 37+ | | | | | | |
| 11 | 3+4+3-5- | 3-6-6-3- | 32- | | | | | | 32- | 4o3+3+4o | 4-3+3o3o | 28- | | | | | | 28- | 3-4-3o4- | 2-2-4o2o | 22+ | | | | | | |
| 12 | 3o4+4+4- | 5-4+3o3o | 30+ | | | | | | 30+ | 3+4-3o3- | 4-3o3o1+ | 24- | | | | | | 24- | 3o4o3+3+ | 4-5o4o4+ | 31- | | | | | | |
| 13 | 5o4o4+4o | 5-3o4+4- | 33o | | | | | | 33o | 1+1o3-2- | 2-3o3-5o | 19o | | | | | | 19o | 4o3+3-2+ | 4+4o2-1o | 23+ | | | | | | |
| 14 | 4o4-3o4- | 4o6-5-3o | 32- | | | | | | 32- | 5+6+7-5o | 4+3+3o3o | 37o | | | | | | 37o | 3-4-4-3+ | 2o1+3o1- | 20+ | | | | | | |
| 15 | 4+4o3+2o | 3+4-5-5- | 30o | | | | | | 30o | 4+4-3-3o | 4o4o4o4o | 30- | | | | | | 30- | 1-3-1+1- | 1+0+2o3- | 12- | | | | | | |
| 16 | 4+3-4o4+ | 5-4+3-3o | 30o | | | | | | 30o | 3o2+3o2+ | 2o2o1-2+ | 18- | | | | | | 18- | 3-4-1+2+ | 2o2o0+0+ | 15- | | | | | | |
| 17 | 3+3+4-4- | 4+4-4-3+ | 29o | | | | | | 29o | 2o1-1-1+ | 2o1+1o2o | 11o | | | | | | 11o | 0+0+0+0+ | 0+0+0+0+ | 3- | | | | | | |
| 18 | 2o3o3o5- | 3+4o4o3o | 27o | | | | | | 27o | 1-1o0+2o | 1+0+0o0o | 6- | | | | | | 6- | 0o0o2o1o | 1+2o4o5+ | 16- | | | | | | |
| 19 | 3+3+3o2- | 1o4-3-3- | 21+ | | | | | | 21+ | 0+1o1+2- | 1o1-0o0o | 6o | | | | | | 6o | 6+5+2+4- | 3+1+4-5- | 31- | | | | | | |
| 20 | 3-2-2+2+ | 2+3o3-3+ | 20+ | | | | | | 20+ | 1-1-1o4- | 5-4-3o4- | 21o | | | | | | 21o | 3+1o3-2+ | 1+0+2-1o | 14- | | | | | | |
| 21 | 3-2+1-1- | 2o2-2o1o | 13o | | | | | | 13o | 4-3-2o3- | 1+2o2-2o | 18o | | | | | | 18o | 2-3o1-0+ | 1-1o2-3o | 12o | | | | | | |
| 22 | 3o1+2-1- | 1+1+2o1- | 12o | | | | | | 12o | 3-3-1o0+ | 0+1-1-0+ | 9- | | | | | | 9- | 3+4-2+3o | 3+2+2-1+ | 21o | | | | | | |
| 23 | 2-2+1o2- | 0o0o1o3+ | 11o | | | | | | 11o | 1-2o1+1- | 1+1-1-2- | 9o | | | | | | 9o | 1o3-2o1+ | 1o2-3o3o | 16- | | | | | | |
| 24 | 3-1o1+0+ | 1o3o1o0o | 10+ | | | | | | 10+ | 1o1+0+1- | 0+0+1o2o | 7o | | | | | | 7o | 1-0+1-1o | 1o1+0o0o | 5o | | | | | | |
| 25 | 0o1-0+1o | 2-2+1-3- | 9+ | | | | | | 9+ | 2o1o1-0+ | 0+0+0o1- | 5+ | | | | | | 5+ | 0+1o1o2o | 2o2+3+3+ | 15+ | | | | | | |
| 26 | 0+0o1-2- | 3-3+3o4- | 15+ | | | | | | 15+ | 1-1-1o1+ | 0+0+1o1o | 6+ | | | | | | 6+ | 4-4+5+5- | 6o2+2o5+ | 34- | | | | | | |
| 27 | 3o3-3-3o | 3-2+3o3- | 22o | | | | | | 22o | 2o0+1-1- | 1-0+0+0+ | 5+ | | | | | | 5+ | 7+7o6-6- | 3+3o4-2+ | 38o | | | | | | |
| 28 | 3o2+3-2o | 1o2-2+1o | 16+ | | | | | | 16+ | 2-1+1o1+ | 1+0+2-1o | 10- | | | | | | 10- | 2-1+1+2+ | 2+3-2+4o | 18o | | | | | | |
| 29 | 2-1o1o1+ | 2+2-2-2- | 12+ | | | | | | 12+ | 1-2+2o2- | 2o2o2+2+ | 15+ | | | | | | 15+ | 5-5o5o4- | 2+3-3-2o | 28o | | | | | | |
| 30 | 1-2o0+1o | 1o1o1o1+ | 8+ | | | | | | 8+ | | | | | | | | | | 4-3-3+2- | 2+3+2o5- | 24- | | | | | | |
| 31 | 1+1o1-1- | 1-3-2+2+ | 12- | | | | | | 12- | | | | | | | | | | 3o3o3o2+ | 2+0o1o2- | 16+ | | | | | | |

| | April 1944 | | | | | | | | May 1944 | | | | | | | | June 1944 | | | | | | | | | | |
|----|------------|----------|-----|---|---|---|---|---|----------|----------|----------|-----|---|---|---|---|-----------|-----|----------|----------|-----|---|---|---|---|---|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 3-1-1o2- | 2-1+4o4+ | 17+ | | | | | | 17+ | 3+3-3-3+ | 6o6-4+5- | 33- | | | | | | 33- | 2+1-1+1o | 1+2o2o0+ | 11o | | | | | | |
| 2 | 4+5o8o8+ | 6o4o5o4o | 45- | | | | | | 45- | 4-5o4+5o | 4+3o2o2o | 29+ | | | | | | 29+ | 1-1+1+2+ | 1+1-2-1+ | 11- | | | | | | |
| 3 | 5o5o4-2o | 2o2o3o3o | 26- | | | | | | 26- | 3-3-2o1+ | 3+2o1o1+ | 16+ | | | | | | 16+ | 0+1-1+1- | 1-0+1o1o | 6o | | | | | | |
| 4 | 3o3+4+5+ | 4-3+3o3o | 29o | | | | | | 29o | 1o1-1-4- | 3o3+5o5o | 22+ | | | | | | 22+ | 1-1-1-1- | 1-1-3+3o | 10+ | | | | | | |
| 5 | 3o5-3o4o | 3-4o4+4o | 30- | | | | | | 30- | 4+2+2+3+ | 4o3o3+2- | 24+ | | | | | | 24+ | 2o1o1+2- | 2+3-2o1o | 14o | | | | | | |
| 6 | 3+3o5o5o | 3o4+4-3- | 30o | | | | | | 30o | 4o2+3-4o | 3+4-4+2+ | 27- | | | | | | 27- | 2-1o1-1- | 1o1+2-0+ | 8+ | | | | | | |
| 7 | 4+3-3+3- | 2o3+5-5o | 28o | | | | | | 28o | 2o3-4o3- | 3o3+3o3- | 23+ | | | | | | 23+ | 0o0+1-1o | 1o2-1o0+ | 6o | | | | | | |
| 8 | 4-2o1-3- | 5+2-3+2+ | 22- | | | | | | 22- | 3+3+3o3- | 1o1-1o2- | 17- | | | | | | 17- | 0+1o0+0+ | 1-1o1-1- | 5o | | | | | | |
| 9 | 1o2-1+1o | 1-2o3+4o | 15o | | | | | | 15o | 0+1-1+1- | 0+1-2+1+ | 8- | | | | | | 8- | 1+2-1+1o | 2-2-1o2- | 11+ | | | | | | |
| 10 | 3+5o6-4o | 3+3o1+3- | 28+ | | | | | | 28+ | 2+1-0+0+ | 1-1-1-2- | 7+ | | | | | | 7+ | 2o1o1-1o | 1+1o1o1o | 9o | | | | | | |
| 11 | 3+2-2+2o | 1+3+3o4- | 21- | | | | | | 21- | 1+2-1+1- | 1o1o1o2- | 10- | | | | | | 10- | 1o1-1+1o | 1+2+2o2o | 12- | | | | | | |
| 12 | 4+3-2+1+ | 1+0+1o0+ | 14- | | | | | | 14- | 2-1-1-2- | 1o1+2-2o | 11- | | | | | | 11- | 1o+o1-1- | 1-1-0+0o | 5o | | | | | | |
| 13 | 0+1o0+0o | 0o0o0o0+ | 2o | | | | | | 2o | 0+1-0+1- | 0+0+0+1+ | 4+ | | | | | | 4+ | 0o1o1o1o | 2-1+2-2o | 10- | | | | | | |
| 14 | 0o0o0+1+ | 0+0+0o0o | 2+ | | | | | | 2+ | 0+1+2-1o | 1-0+0+1o | 7- | | | | | | 7- | 2o1o1-2o | 3-1-1+4o | 14o | | | | | | |
| 15 | 2-0+0+1o | 3-3+3o4+ | 16o | | | | | | 16o | 3-2+2o1- | 0+0+0+0+ | 9o | | | | | | 9o | 4o3+4-2o | 3-3+3o3+ | 25+ | | | | | | |
| 16 | 5+4o5-4+ | 4+6-3+2+ | 34o | | | | | | 34o | 0o1-1-0+ | 1o0+0+0+ | 4- | | | | | | 4- | 3o2-3o3- | 3-2o2o3- | 20- | | | | | | |
| 17 | 4-3o1o2- | 2o2-1+2+ | 17- | | | | | | 17- | 2-1o1-1- | 1o0o0+2- | 7o | | | | | | 7o | 2o1+2o1o | 1o2o1-3- | 13- | | | | | | |
| 18 | 4-1o1+1- | 0+1-1-2- | 10o | | | | | | 10o | 1o1-1-1+ | 1-0o1-1+ | 6+ | | | | | | 6+ | 2o2o2o1o | 1+1o1-1o | 11o | | | | | | |
| 19 | 2o0o0+1- | 1o1o1+1- | 7o | | | | | | 7o | 1+0+1o1- | 1+0+1o1o | 7o | | | | | | 7o | 1o2-1-2- | 1+1-0+2+ | 10- | | | | | | |
| 20 | 2-2o1o1o | 1o1o1o0+ | 9o | | | | | | 9o | 0+0+0o0+ | 0+0+0o0o | 2- | | | | | | 2- | 2+3-3-2+ | 2-1+2+3+ | 19- | | | | | | |
| 21 | 0+1o1o1o | 3-1+1-0+ | 8+ | | | | | | 8+ | 1-1-1-1o | 0+1-0+1+ | 6- | | | | | | 6- | 3-4+4+4- | 2o2o2o2o | 23o | | | | | | |
| 22 | 0+0+0+1- | 0+1-0o0+ | 3o | | | | | | 3o | 0+0+1o1- | 1o1o2-2- | 8- | | | | | | 8- | 3+4+3+4o | 2+5-2o3+ | 27+ | | | | | | |
| 23 | 0o0o0+0+ | 1-0+0+0o | 2o | | | | | | 2o | 1o2o1o1+ | 2-2-2-2- | 12o | | | | | | 12o | 2o2-5-2o | 2o4-2o3- | 21- | | | | | | |
| 24 | 3+4-4-2+ | 3o2-2-2+ | 22- | | | | | | 22- | 3o2+4-3o | 2-1+2+3- | 20o | | | | | | 20o | 2+2o2o1+ | 1+1o1-1- | 11+ | | | | | | |
| 25 | 3+2o2-1- | 1-1o2+3- | 14+ | | | | | | 14+ | 1o2+2-1o | 2-1o2+2- | 13- | | | | | | 13- | 1-1o1-0+ | 1-2-2o1- | 8- | | | | | | |
| 26 | 2+3-2+1+ | 1o2+3-2+ | 17o | | | | | | 17o | 3o2o2-2- | 1+2-1+1o | 14- | | | | | | 14- | 2-2+2o3- | 4-4o4o4o | 24+ | | | | | | |
| 27 | 2+3-2-3o | 2+2+4-3- | 21- | | | | | | 21- | 2+3o2+3o | 2+1o1o1- | 16- | | | | | | 16- | 3+3o2o3o | 2-2+2-2+ | 19+ | | | | | | |
| 28 | 3+3-2+2o | 2+2+3o1+ | 19+ | | | | | | 19+ | 1-1-2-2- | 2-1+1+2+ | 11+ | | | | | | 11+ | 1o1+1+2o | 2-1+1-2 | | | | | | | |

| | July 1944 | | | | | | | | August 1944 | | | | | | | | September 1944 | | | | | | | | | | |
|----|-----------|----------|---|---|---|---|---|---|-------------|----------|----------|---|---|---|---|---|----------------|-----|----------|----------|---|---|---|---|---|-----|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 2+1+1-1- | 2-2-2-1+ | | | | | | | 11+ | 2o2o2o2+ | 3o1o1-1- | | | | | | | 14- | 4+2-2-3- | 3o1+lo3- | | | | | | 18+ | |
| 2 | 2o2o2o2- | 2-1o1+2- | | | | | | | 13+ | 1+2-2-2- | 3-3o3+5o | | | | | | | 20+ | 5-5-4+4- | 3o3+4-3+ | | | | | | 31- | |
| 3 | 1-1o2o2o | 2-1+1+2o | | | | | | | 12o | 6+6+5+5- | 3+1+3-3o | | | | | | | 33o | 3-1o3+3o | 1+1+lo1o | | | | | | 15- | |
| 4 | 2+1+0o1- | 0+1-3-1- | | | | | | | 9- | 3o1o1+1+ | 2-1o1+1o | | | | | | | 12- | 2-1o0+1+ | 1+1+3+3+ | | | | | | 14- | |
| 5 | 2o2-2-1o | 1o1+1o1- | | | | | | | 10+ | 1o1o0+2- | 1+2-2-3o | | | | | | | 12- | 3+2o2-2o | 1+1+0+1o | | | | | | 13o | |
| 6 | 1o1+1+1o | 1o1-1o2+ | | | | | | | 10- | 2+2+3-2o | 1+2-1+1+ | | | | | | | 15o | 1+0+0+2+ | 1+2+1+2o | | | | | | 11+ | |
| 7 | 3o3-1+1+ | 2-1+1o1+ | | | | | | | 14- | 2o1+1-1o | 2o2-1-1+ | | | | | | | 11- | 1o3-3-2+ | 1-1o1-0+ | | | | | | 11+ | |
| 8 | 0+1+1o1+ | 1o0+2-1+ | | | | | | | 8+ | 1-1o1-2- | 1+3-3o2- | | | | | | | 13- | 1-1o1+2o | 2+2+3o3+ | | | | | | 16o | |
| 9 | 3-2-4-3+ | 2o2-2-1+ | | | | | | | 18o | 2o2o1+1o | 1o2-1+1o | | | | | | | 11+ | 3-2+0+1o | 1-0+2o2- | | | | | | 11o | |
| 10 | 2o2-1o1- | 2-2o3o2- | | | | | | | 14- | 1+2-3+3- | 2+2+1+2o | | | | | | | 17o | 2-2o2+1+ | 1o2o2o2+ | | | | | | 15- | |
| 11 | 2o2o2-1- | 1-1-1-1- | | | | | | | 9o | 4-3-2o1o | 1+1o2+4- | | | | | | | 18- | 2o2+2+2- | 2-1o2-3o | | | | | | 16- | |
| 12 | 1-1+1-1- | 1-1o1o2o | | | | | | | 8o | 4-4-2o2o | 2o2o1o2o | | | | | | | 18+ | 2+2+3o3+ | 2+1+1+2o | | | | | | 18o | |
| 13 | 2o1+2-1o | 1+1o1o1+ | | | | | | | 11- | 3-1o2+2- | 1o1o2-1- | | | | | | | 12o | 2o0o0o1o | 1+2+2o3o | | | | | | 12- | |
| 14 | 1-0+2o3o | 1o2o1+2o | | | | | | | 12+ | 1o0+0+1o | 2-1o3-2+ | | | | | | | 10+ | 3o3+2+1+ | 3o2+2o1- | | | | | | 18o | |
| 15 | 2+2+3o2+ | 3-1+2-2- | | | | | | | 17+ | 2-2o2o1+ | 1+1-1o1o | | | | | | | 11o | 1+2+1+2o | 1-0o0o1- | | | | | | 8+ | |
| 16 | 1o2-2o1o | 2+2-3o2o | | | | | | | 15- | 1-1-1o2- | 2-2o1o2o | | | | | | | 11- | 0+2o2-1- | 1+2o1-1- | | | | | | 9+ | |
| 17 | 1+3+3-2o | 2-1+2-1o | | | | | | | 15o | 3-2+1-1- | 1-1-1o1o | | | | | | | 10- | 1-1-1-1+ | 2-2o0+1o | | | | | | 8+ | |
| 18 | 1+1+1o1- | 1-1-2+3- | | | | | | | 11- | 3o2o6-4o | 3-2+3+2- | | | | | | | 25- | 4-3+3-2- | 2-1o2o1- | | | | | | 17- | |
| 19 | 3-2-2-2+ | 3o1+1o2o | | | | | | | 16- | 3o2+3-1+ | 1o1o1-1+ | | | | | | | 13+ | 1o0+1-1- | 2-0+0+0o | | | | | | 5o | |
| 20 | 2o2+3+3+ | 3o1-1o2- | | | | | | | 17+ | 2+1+1o1o | 2-1-1o1+ | | | | | | | 10+ | 0o0o1o1o | 2-2-2+4o | | | | | | 12- | |
| 21 | 1o2-2+3- | 2+2-2o2+ | | | | | | | 16o | 2-1o1-1o | 0+1-1+1- | | | | | | | 7+ | 5+4o3+3+ | 2+2-2o2o | | | | | | 24o | |
| 22 | 1+1+2+2- | 1+2-2+2- | | | | | | | 14- | 1+2-1o2- | 1o1-0+2+ | | | | | | | 10o | 3-2-1o1+ | 1+1+3-4o | | | | | | 16o | |
| 23 | 1o1-2o2o | 1o1+0+1- | | | | | | | 9o | 4-2o3-2o | 3-2-2o1+ | | | | | | | 18o | 3+3o2-2o | 1o2-3o4+ | | | | | | 20o | |
| 24 | 0+0+1o0+ | 0+0+1-1o | | | | | | | 4+ | 2o3+3+3- | 4o3-1o1o | | | | | | | 20o | 5+3+5-5- | 4o2-2-4- | | | | | | 29o | |
| 25 | 1o1+1-0+ | 1-0+0+0+ | | | | | | | 5o | 0+1+0+0+ | 1-1+0+0+ | | | | | | | 5o | 3o3o2-2- | 2o1+3+3- | | | | | | 19- | |
| 26 | 0+1o1-1+ | 1-0+1-1- | | | | | | | 6- | 1-0+0+0+ | 1o2-2o3- | | | | | | | 9o | 4+2+2o2o | 2+2+2o3- | | | | | | 20o | |
| 27 | 0o0o1-0+ | 1o1+1o1+ | | | | | | | 6- | 2o2-2o0+ | 1-1o3+2o | | | | | | | 13o | 1o3o4-2+ | 2o3+3+3o | | | | | | 22- | |
| 28 | 1o0+0+0+ | 1o1+1+2+ | | | | | | | 8o | 2o3-5o4- | 4-3o3o3o | | | | | | | 26o | 1+3-2o1+ | 1-1+2-1+ | | | | | | 12+ | |
| 29 | 2-1o0+1o | 1-1o2-2- | | | | | | | 9o | 1o0+1-2- | 2-2-1o1+ | | | | | | | 9+ | 1o3-2o2+ | 2-1o2+2o | | | | | | 15o | |
| 30 | 1+1+1+2- | 1+1+1o2- | | | | | | | 11o | 3-3-2o2+ | 2o1+3-2- | | | | | | | 17+ | 1-1o1+2- | 5-6o6o5- | | | | | | 26o | |
| 31 | 2+2+1+2o | 1+0+1+2o | | | | | | | 13o | 3o4-4-4- | 1+4-3-3- | | | | | | | 24+ | | | | | | | | | |

| | October 1944 | | | | | | | | November 1944 | | | | | | | | December 1944 | | | | | | | | | | |
|----|--------------|----------|---|---|---|---|---|---|---------------|----------|----------|---|---|---|---|---|---------------|-----|----------|----------|----------|---|---|---|---|-----|-----|
| E | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum |
| 1 | 4o3-2+4+ | 4-4o3+4+ | | | | | | | 29- | 1o0+0+1- | 1-1-1-2o | | | | | | | 6+ | 2-0+1o2o | 3-3o2+2- | | | | | | 15- | |
| 2 | 2o0o0+2- | 2-1+2+3- | | | | | | | 12o | 1o2+1-1+ | 0+1-1o1o | | | | | | | 8+ | 3+2+3o2+ | 2o3+4+2+ | | | | | | 23o | |
| 3 | 3o4-4-3- | 3-3+4o3+ | | | | | | | 26+ | 0o1-1+2+ | 3o3-1o1- | | | | | | | 12- | 3o3+3o2- | 2o1+2o2o | | | | | | 18+ | |
| 4 | 3o1o0+2o | 1-3-3-1+ | | | | | | | 14- | 2o2+3o3o | 4-3+2o2o | | | | | | | 21+ | 2o3o1+1- | 1o0+2o1+ | | | | | | 12- | |
| 5 | 2+2+1+1o | 1o1o0+1- | | | | | | | 10o | 3o5o4+3o | 3+4-4-5+ | | | | | | | 31+ | 1+2-1+2+ | 2-1+1o2+ | | | | | | 13o | |
| 6 | 2-2+2o1+ | 1-3o4-3+ | | | | | | | 18o | 3o4-4+3- | 4-1+1o1o | | | | | | | 21- | 3-2+1+2- | 1-2-1+1- | | | | | | 12+ | |
| 7 | 2+2+1o1- | 2+1o3-1+ | | | | | | | 14- | 1o1-1-1- | 2+2+2-2o | | | | | | | 11+ | 1o0o1-0+ | 0+0o0o0+ | | | | | | 3- | |
| 8 | 1o1-0o0+ | 0+0+1-1+ | | | | | | | 5- | 2o2+3-2- | 1-0+0o0+ | | | | | | | 10o | 0o0o1+0o | 1o1o1o2- | | | | | | 6o | |
| 9 | 2+1+2o1+ | 0o0o0+0+ | | | | | | | 8- | 2+2o3-2- | 1o1-3-1+ | | | | | | | 14+ | 3-3-1o1- | 0+1o2-1+ | | | | | | 11+ | |
| 10 | 0o0o1o1+ | 1o1-2+4- | | | | | | | 10o | 0+0+2o2+ | 3o4o3o0o | | | | | | | 15o | 2-2-0+1o | 1-1-1+0+ | | | | | | 8- | |
| 11 | 6-6o2o1+ | 3+5+3o3+ | | | | | | | 30o | 0+1+1o1o | 1+2+1+0o | | | | | | | 9- | 1+1o1o1+ | 1-1-0o0o | | | | | | 6o | |
| 12 | 2o3-2-2- | 2-2+3-3o | | | | | | | 18- | 2-1o2-1- | 0+0+0o0o | | | | | | | 6- | 1o1+0+1o | 0+0+1+1- | | | | | | 6+ | |
| 13 | 3-1-1o1- | 3o3+2+3+ | | | | | | | 17o | 0o0o0o0+ | 0+0o0+0+ | | | | | | | 1+ | 1+2o2o3o | 3o4+4-3+ | | | | | | 23- | |
| 14 | 3-2-2o4- | 3o4+4o6+ | | | | | | | 28- | 1-1-0+0+ | 1o1o1+1o | | | | | | | 6+ | 4o5o4o3- | 4o2o0+0o | | | | | | 22o | |
| 15 | 6o6o3+3+ | 2o3-3+5+ | | | | | | | 32o | 2-2-0+0o | 0+0o0+1o | | | | | | | 5+ | 1-1-2-1+ | 1-1-3o4o | | | | | | 13- | |
| 16 | 3-1+4-2- | 2o3-2+2+ | | | | | | | 19- | 1+2o2o2- | 1+0+0+0o | | | | | | | 9o | 4o4-4+6o | 8o8+5o3o | | | | | | 42+ | |
| 17 | 3-2+3+3o | 2o1-1+4- | | | | | | | 18+ | 0o0o0+0+ | 0+0o1-2o | | | | | | | 4- | 2+5o6o6- | 6o6+5+6+ | | | | | | 43o | |
| 18 | 4-3-2o3o | 2-2o1+1- | | | | | | | 17o | 3+1+1+1- | 3-3-1o1o | | | | | | | 14o | 4o5-4o3- | 3-3o3-2o | | | | | | 26- | |
| 19 | 2-1o1o2+ | 0+0+1-0o | | | | | | | 7+ | 3+3-2-2- | 2o2+1+1- | | | | | | | 16- | 1+2+2o3- | 1o2+3-2o | | | | | | 16+ | |
| 20 | 0+0+0+1o | 0+1+2+3+ | | | | | | | 9+ | 2o4-3o3- | 4o5-3+4- | | | | | | | 27o | 1+2+3-1+ | 1-2o2+3o | | | | | | 16- | |
| 21 | 2-1o1+1+ | 1-1o2-2- | | | | | | | 10+ | 2o0+1-1o | 0o0o0+1- | | | | | | | 5o | 4o4-2o1+ | 2o2o1+2- | | | | | | 18o | |
| 22 | 2-2-2-1o | 1+2-1+1o | | | | | | | 11+ | 0+0o0o0+ | 0+2o1o1o | | | | | | | 5o | 2o1o0+1- | 2-2o3o3o | | | | | | 14- | |
| 23 | 2-2-2o1o | 1o4o4-4+ | | | | | | | 19+ | 2o1+1o1o | 1-1o1-0+ | | | | | | | 8o | 2o2-2-1+ | 1o1o1o1+ | | | | | | 11o | |
| 24 | 4+3o4-3+ | 3-2+4-3- | | | | | | | 26- | 0+1o1-0o | 0o0o0o0+ | | | | | | | 2+ | 0o0o0+1- | 1-1+1-0+ | | | | | | 4o | |
| 25 | 2+2o1o1o | 1-1o3+2+ | | | | | | | 14- | 0o0o0o0+ | 0+0o1-0+ | | | | | | | 2- | 1o0+0+1+ | 1-1-0+1o | | | | | | 6- | |
| 26 | 4o4-4o2o | 0+1o3-2o | | | | | | | 20- | 3+2-1o1- | 1+1+0+0+ | | | | | | | 10o | 1-1-0+3- | 2+3-2+2+ | | | | | | 14o | |
| 27 | 3-2-1-1o | 2o4-2-1o | | | | | | | 14+ | 1-1o1o0+ | 0+0+1-0+ | | | | | | | 5- | 4-4-3o4+ | 5-6-5-5+ | | | | | | 35o | |
| 28 | 2-3-3-2- | 2o1+2+2- | | | | | | | 16o | 0+0o0o0+ | 0o1-2o1+ | | | | | | | 5- | 5+2o2o3- | 3o3-1+1+ | | | | | | 20+ | |
| 29 | 1o1o0o1- | 1-1+2o2o | | | | | | | 9- | 0+2o0+1- | 1o1-1o0+ | | | | | | | 6+ | 1o3o2+2+ | 1+2+4-3- | | | | | | 19- | |
| 30 | 2o2+2o1+ | 0+0o0+1o | | | | | | | 9+ | 2o2-1o1- | 2o2o1+2- | | | | | | | 12+ | 4-4-3o2+ | 3+3o3-4o | | | | | | 26- | |
| 31 | 3-3o3+2+ | 2+3o3o2+ | | | | | | | 22o | | | | | | | | | | | 1+2-1+1o | 2+2o2o3+ | | | | | | 15o |

GRAPHS OF IONOSPHERIC DATA

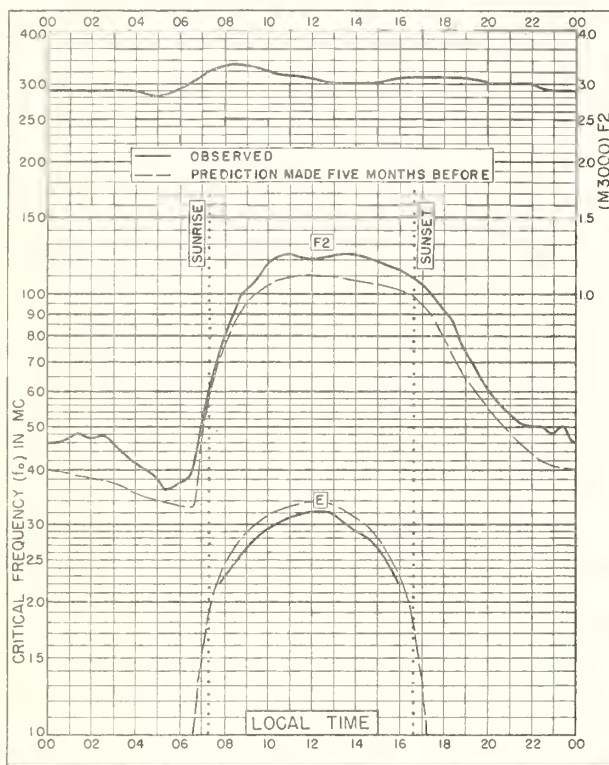


Fig 1 WASHINGTON, D.C.
38.7°N, 77.1°W

DECEMBER 1949

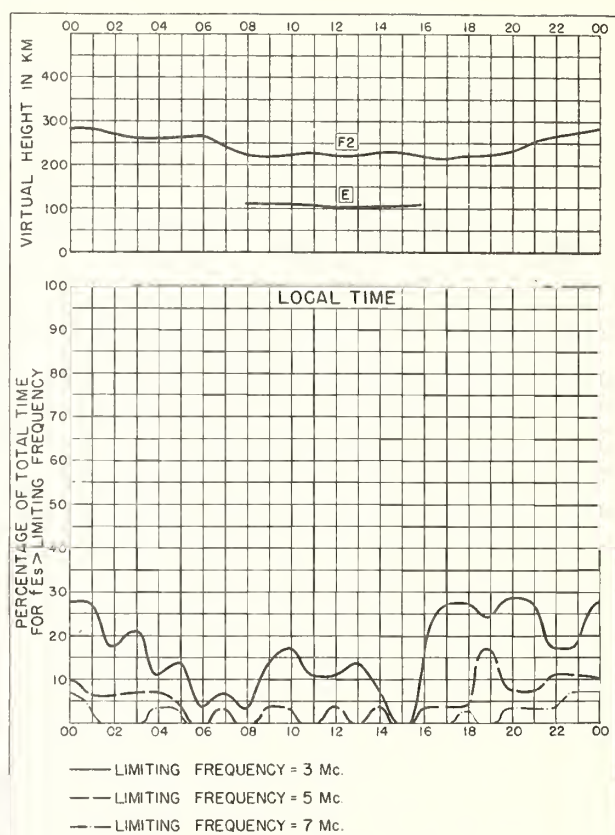


Fig 2 WASHINGTON, D.C.

DECEMBER 1949

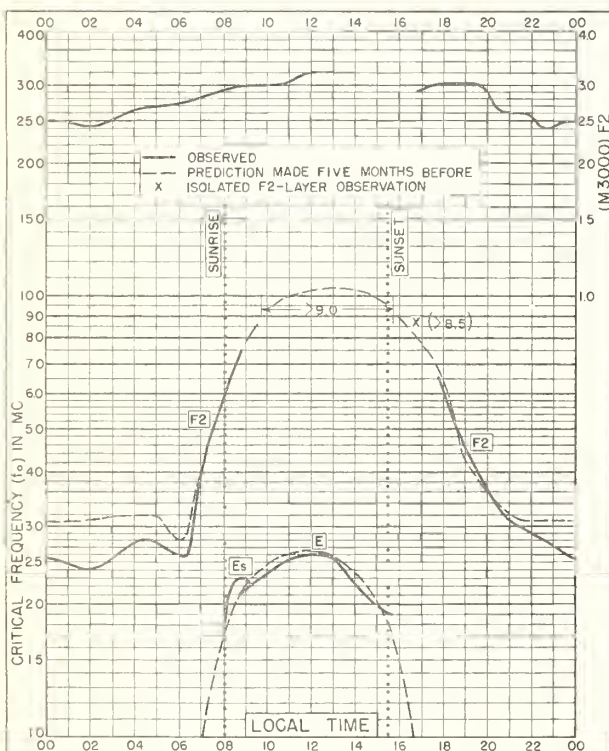


Fig 3 OSLO, NORWAY
60.0°N, 11.0°E

NOVEMBER 1949

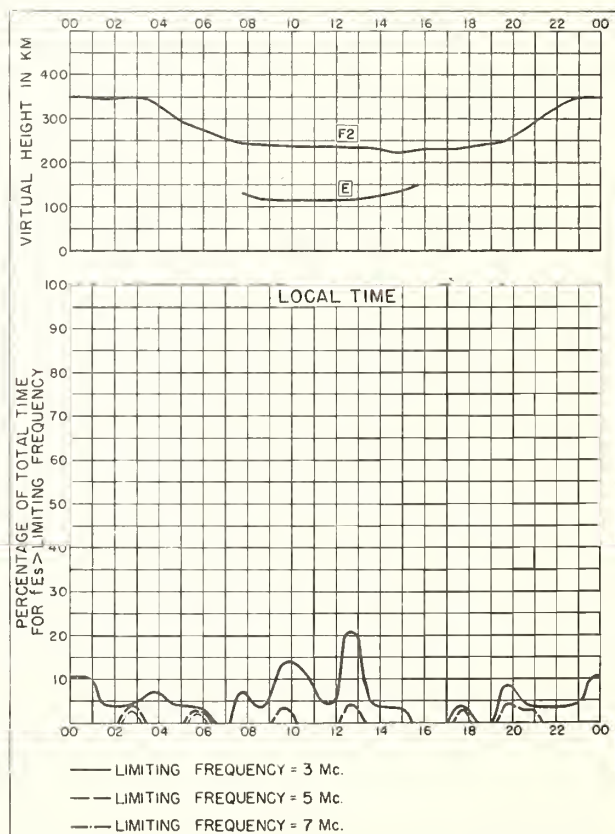


Fig 4 OSLO, NORWAY

NOVEMBER 1949

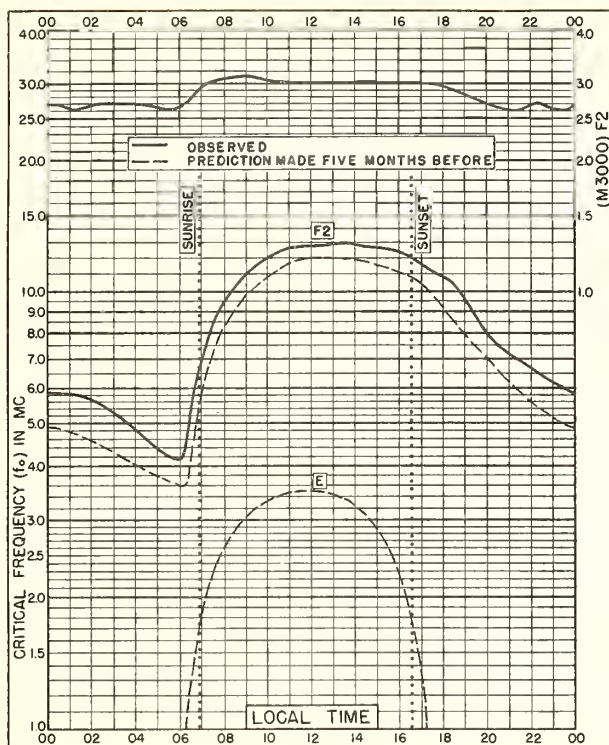


Fig. 5. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W

NOVEMBER 1949

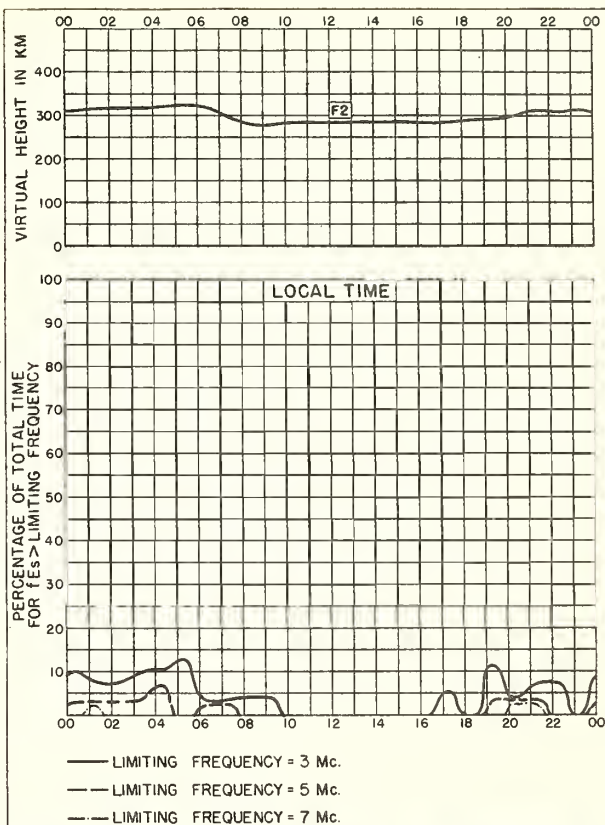


Fig. 6. BOSTON, MASSACHUSETTS

NOVEMBER 1949

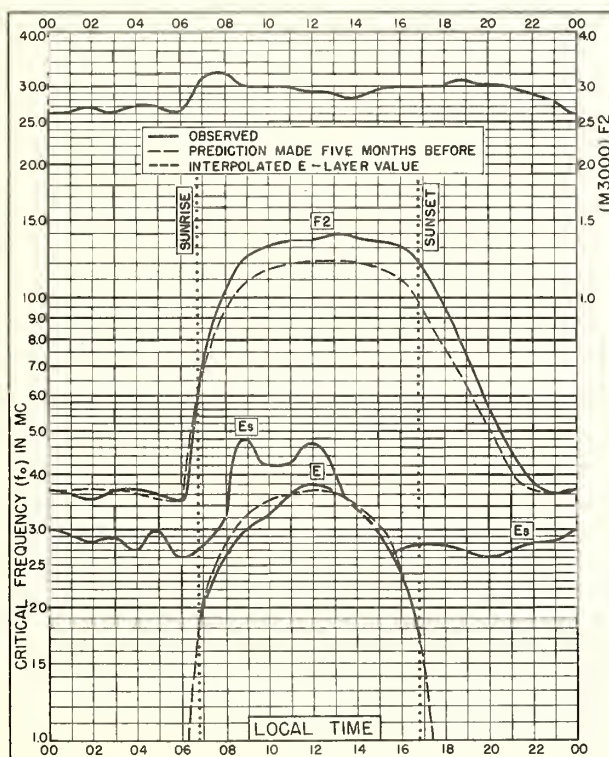


Fig. 7. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W

NOVEMBER 1949

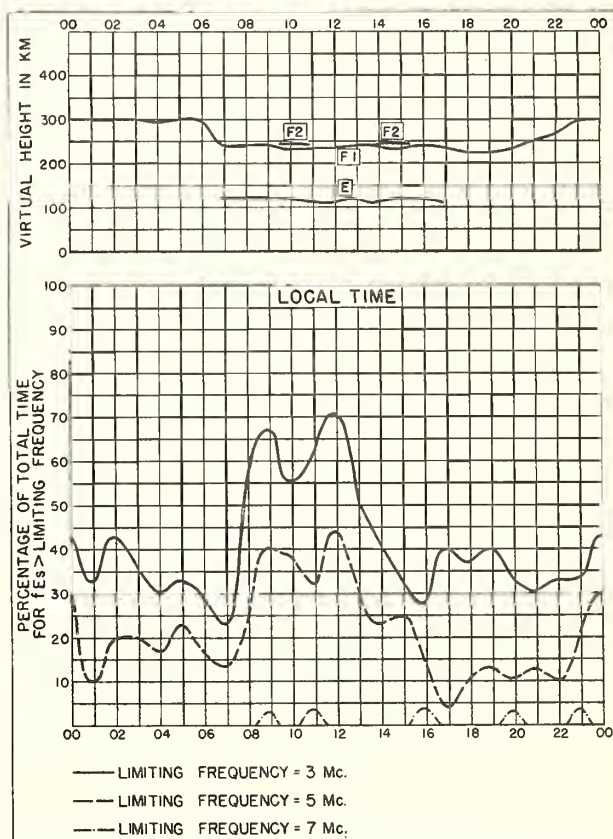


Fig. 8. SAN FRANCISCO, CALIFORNIA

NOVEMBER 1949

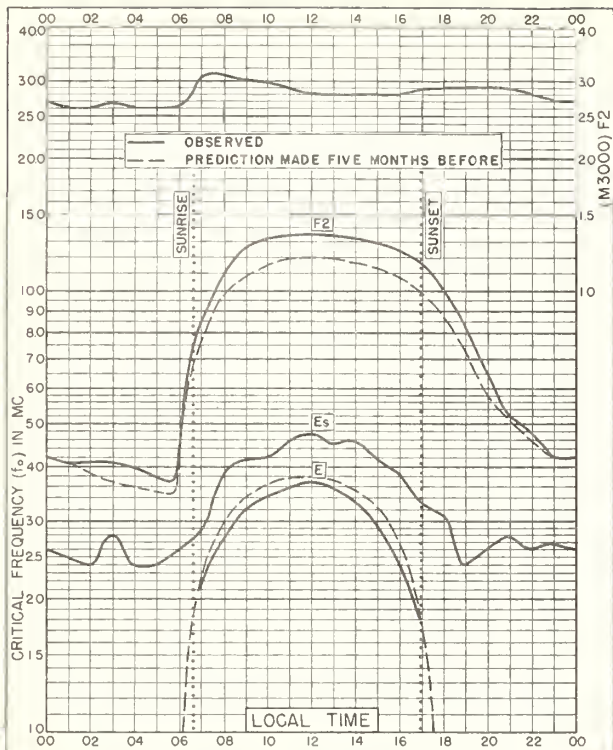


Fig 9. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W NOVEMBER 1949

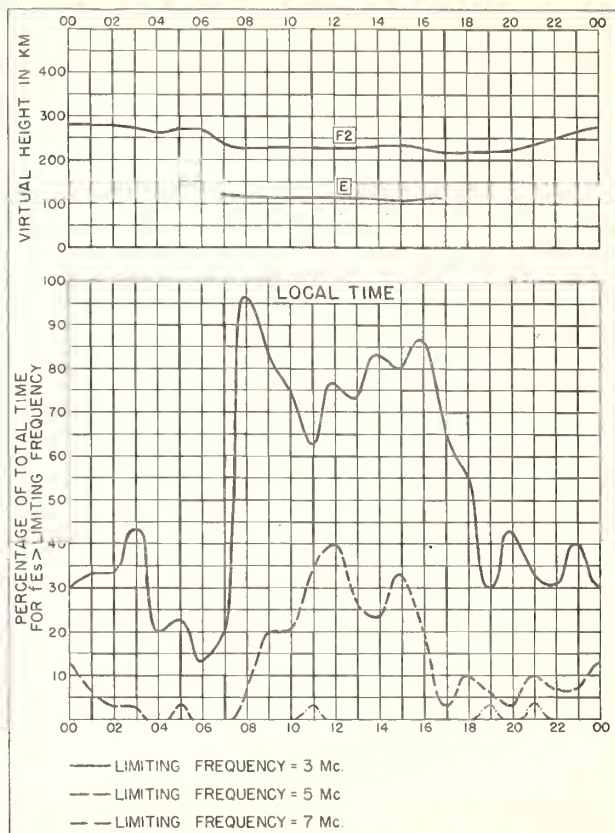


Fig 10. WHITE SANDS, NEW MEXICO NOVEMBER 1949

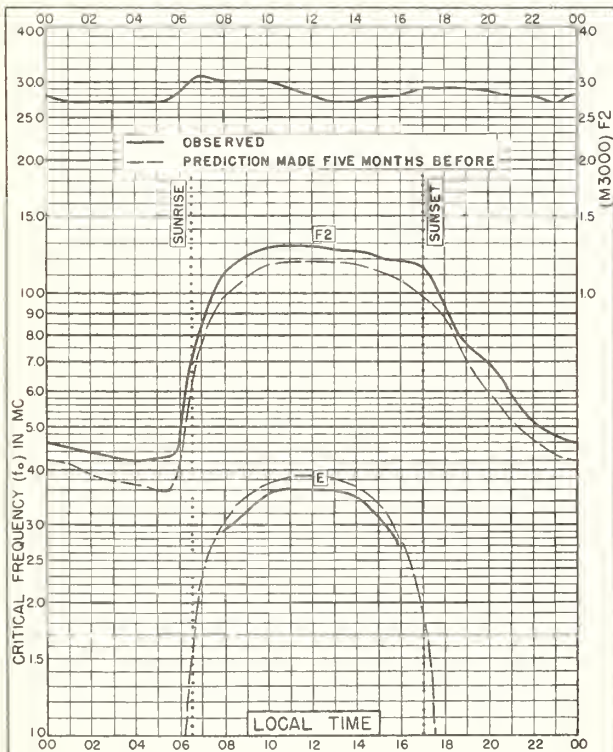


Fig 11. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W NOVEMBER 1949

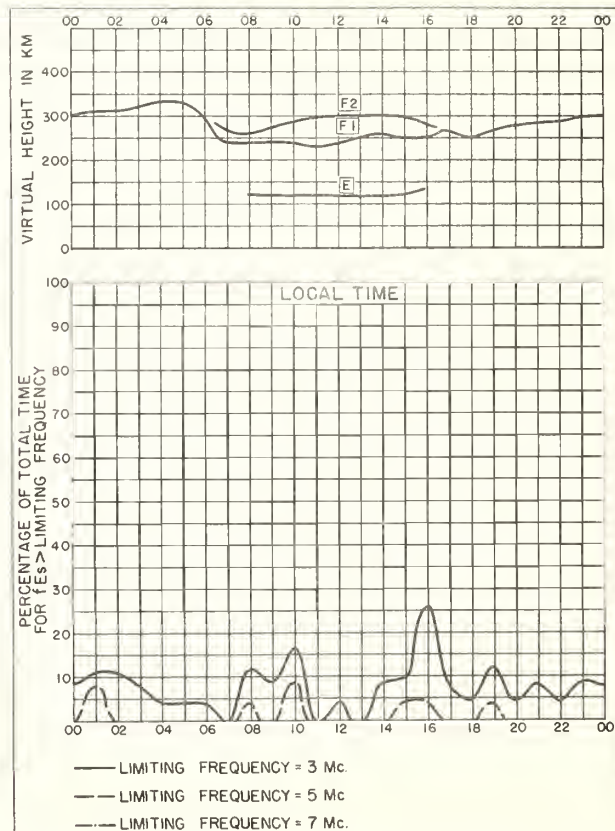


Fig 12. BATON ROUGE, LOUISIANA NOVEMBER 1949

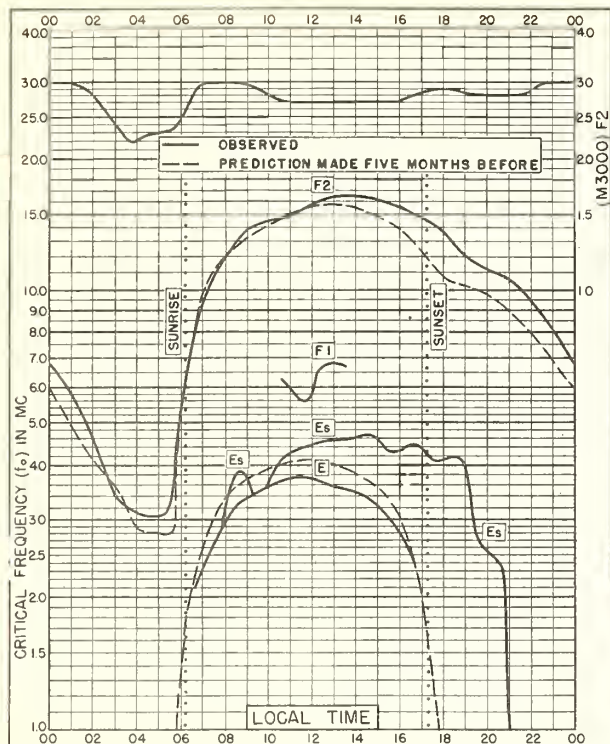


Fig. 13. MAUI, HAWAII
20 8°N, 156.5°W

NOVEMBER 1949

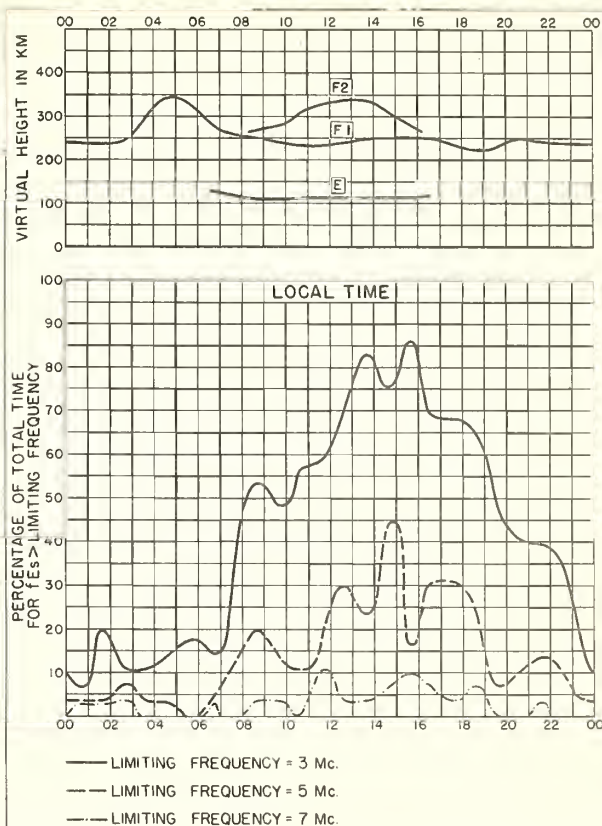


Fig. 14. MAUI, HAWAII

NOVEMBER 1949

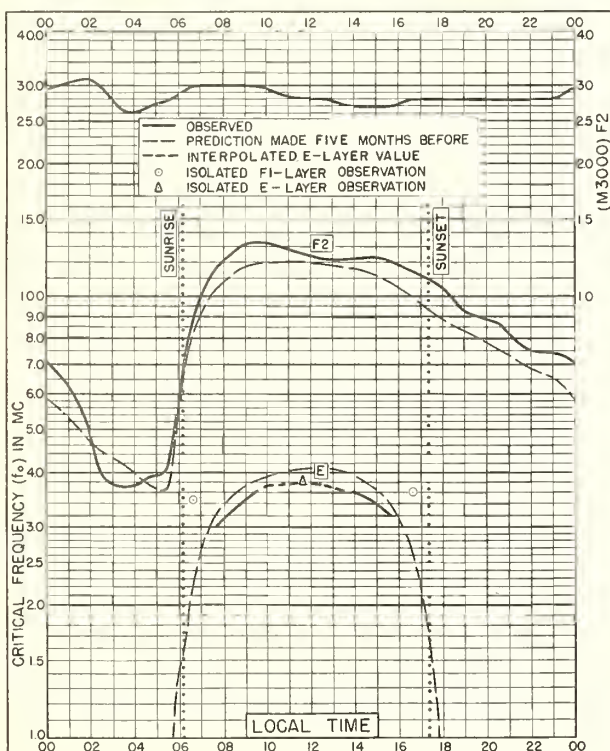


Fig. 15. SAN JUAN, PUERTO RICO
18 4°N, 66.1°W

NOVEMBER 1949

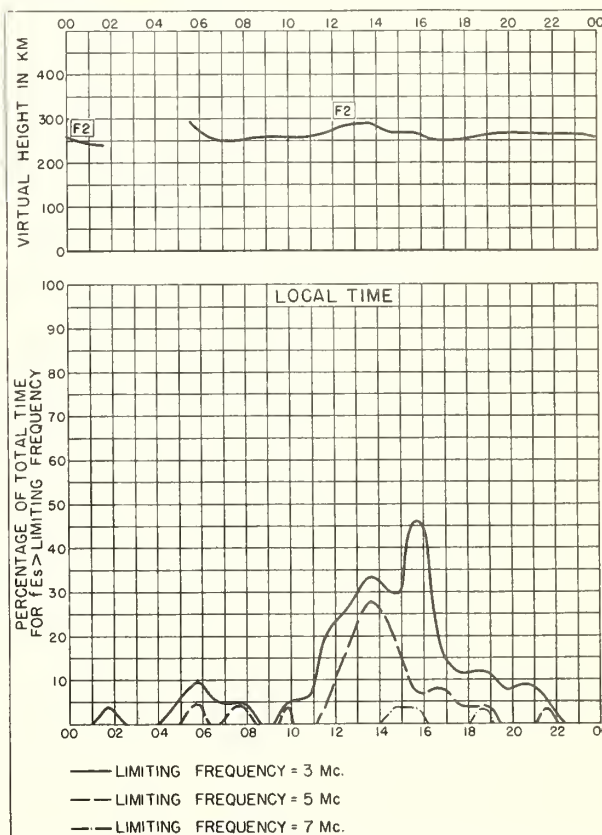


Fig. 16. SAN JUAN, PUERTO RICO

NOVEMBER 1949

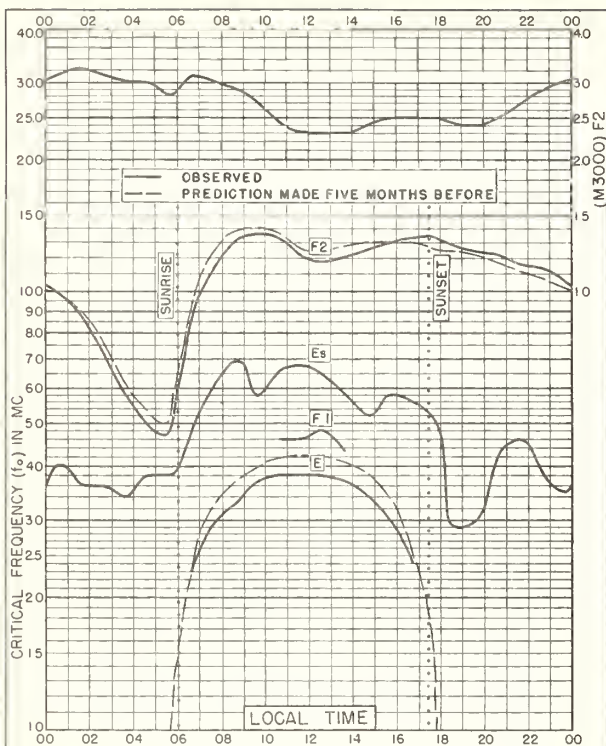


Fig 17. GUAM I
13.6°N, 144.9°E

NOVEMBER 1949

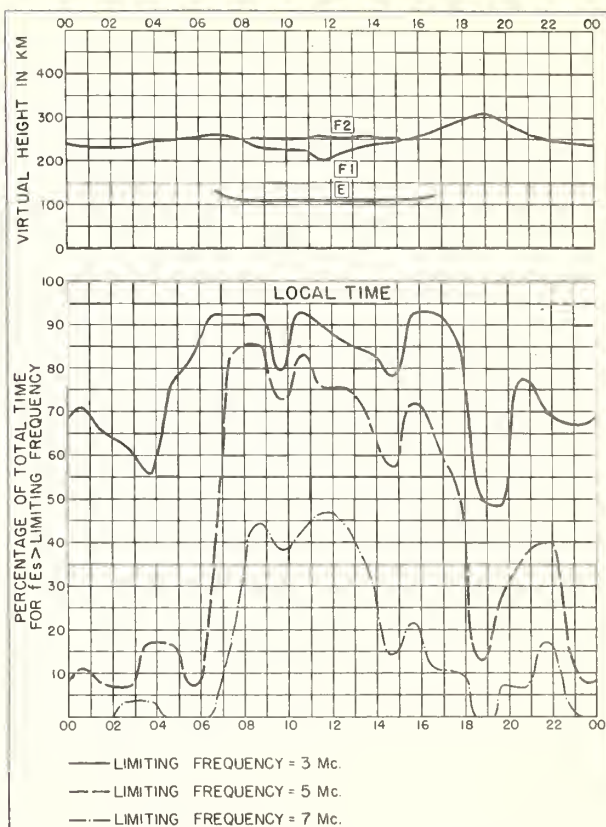


Fig 18. GUAM I.

NOVEMBER 1949

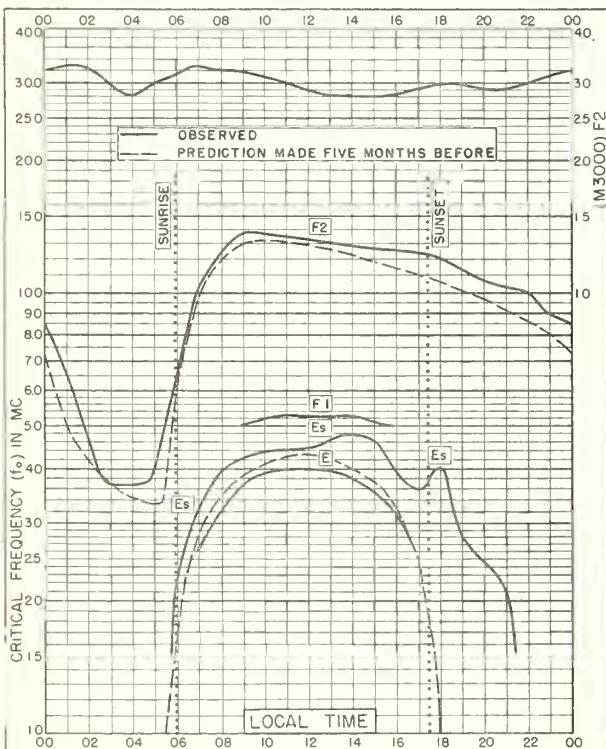


Fig 19. TRINIDAD, BRIT WEST INDIES
10.6°N, 61.2°W

NOVEMBER 1949

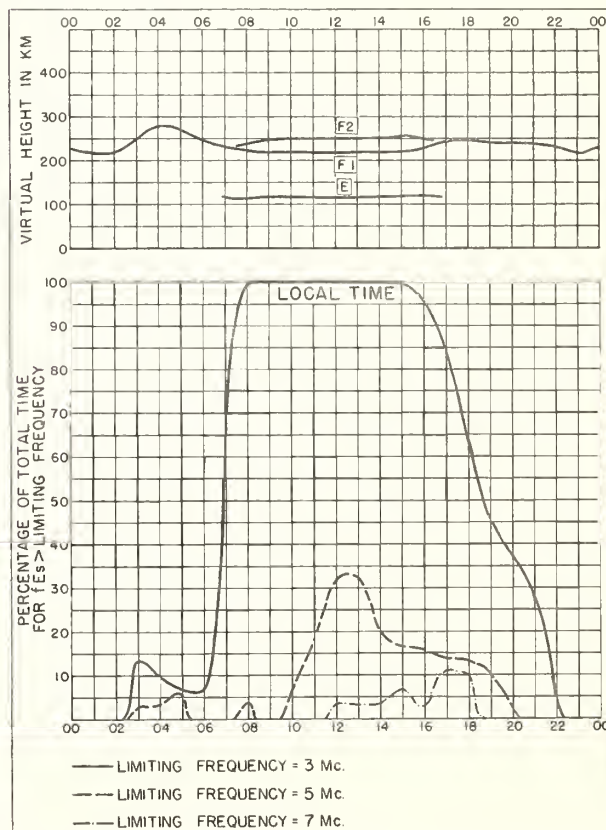


Fig 20. TRINIDAD, BRIT. WEST INDIES

NOVEMBER 1949

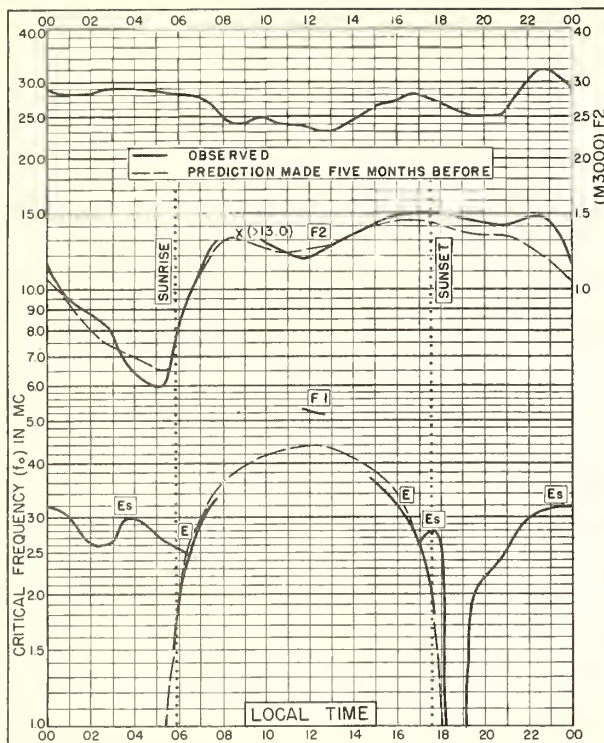


Fig. 21. PALMYRA I.
5.9°N, 162.1°W

NOVEMBER 1949

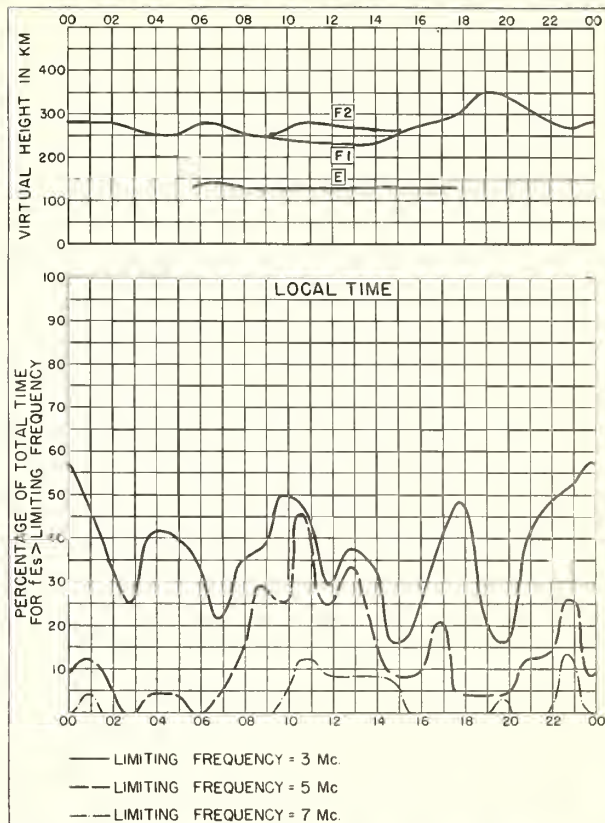


Fig. 22. PALMYRA I.

NOVEMBER 1949

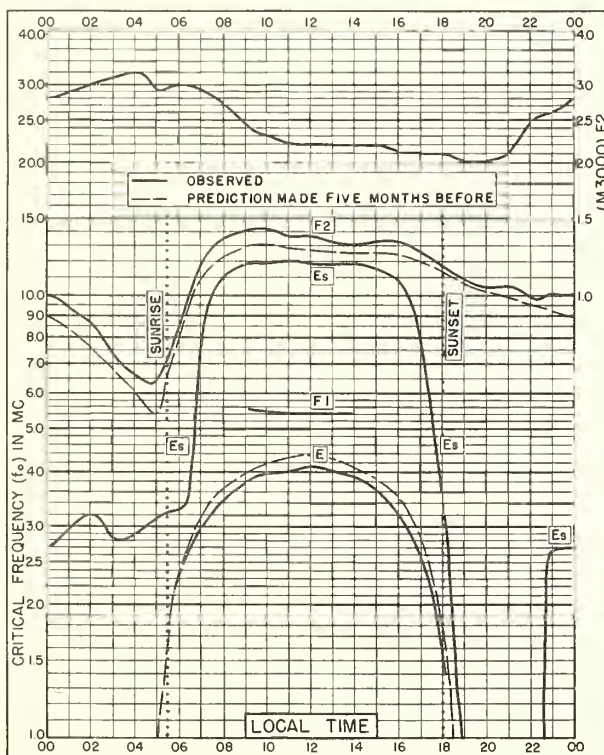


Fig. 23. HUANCAYO, PERU
12.0°S, 75.3°W

NOVEMBER 1949

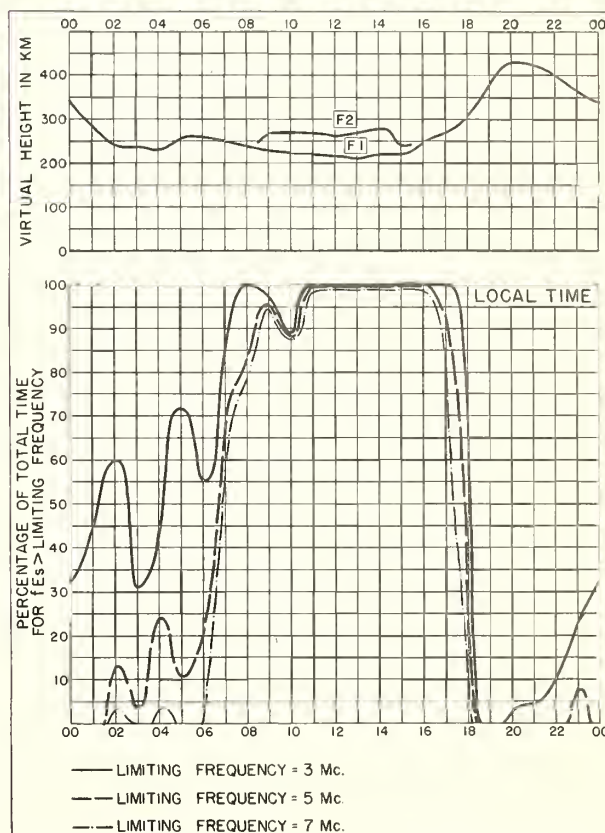


Fig. 24. HUANCAYO, PERU

NOVEMBER 1949

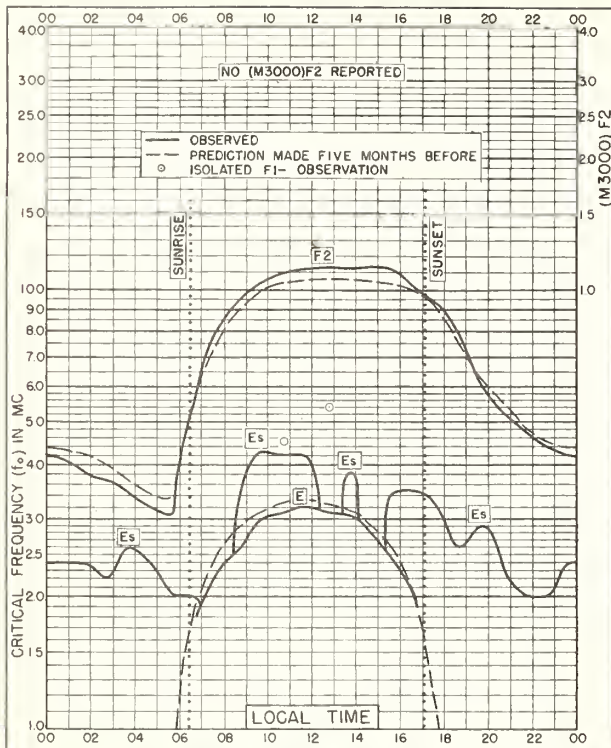


Fig 25. LINDAU/HARZ, GERMANY
51°6'N, 10°1'E

OCTOBER 1949

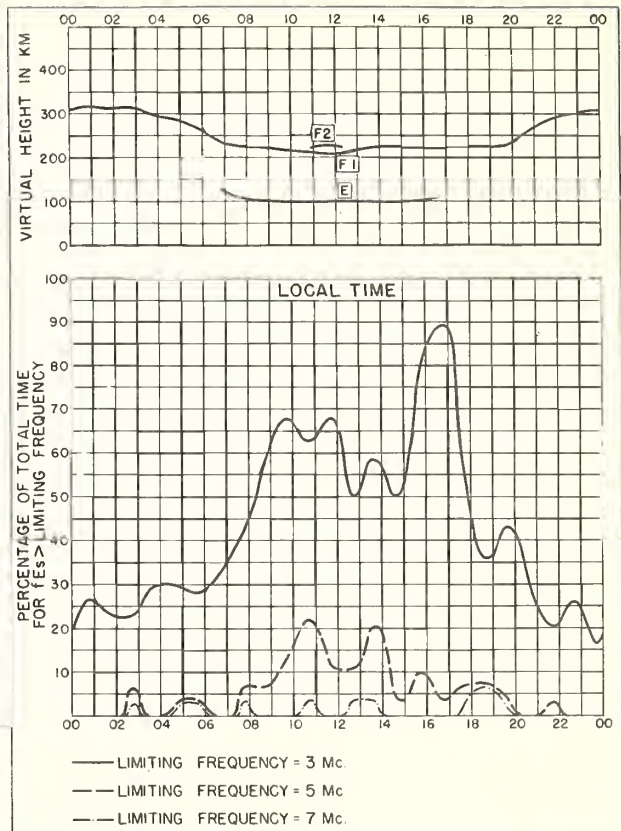


Fig 26. LINDAU/HARZ, GERMANY

OCTOBER 1949

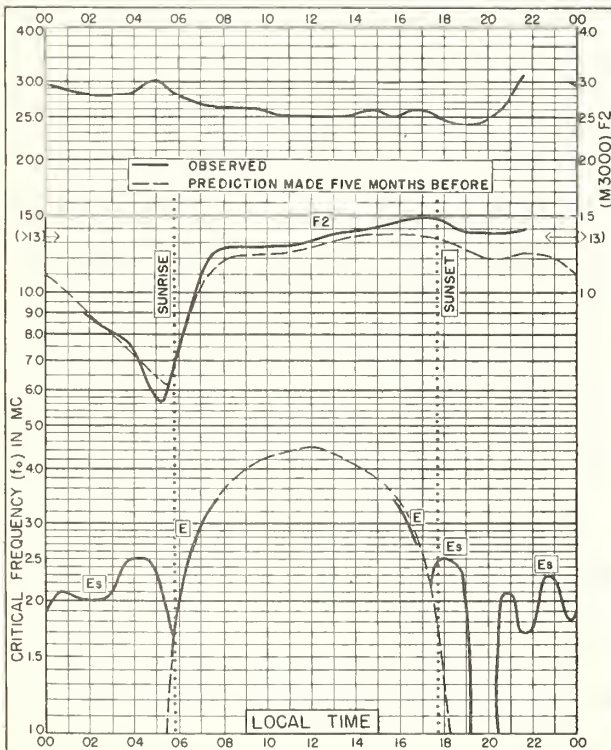


Fig 27. PALMYRA I.
5.9°N, 162.1°W

OCTOBER 1949

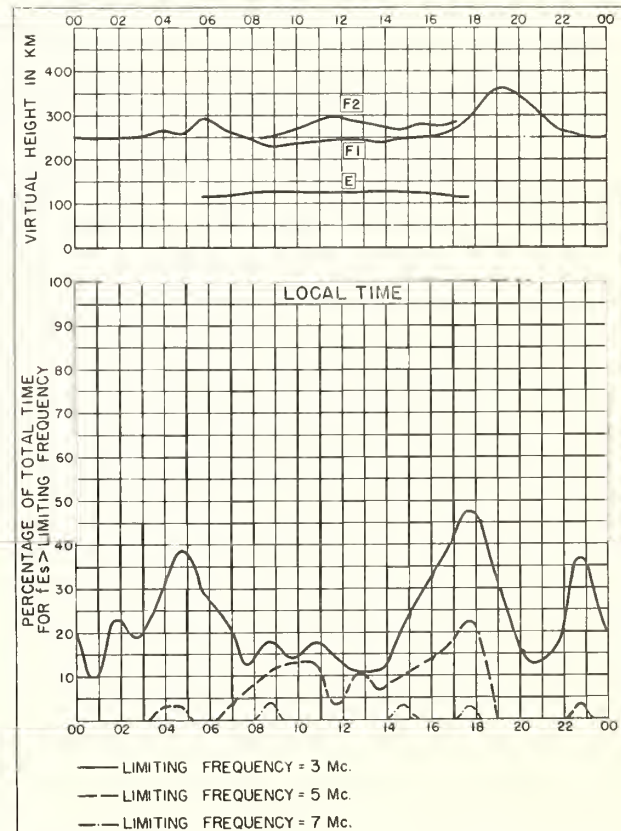


Fig 28. PALMYRA I.

OCTOBER 1949

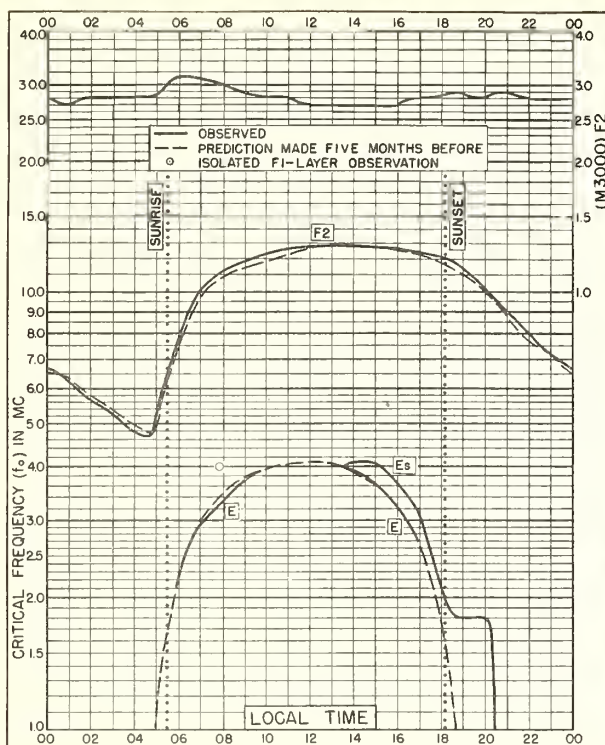


Fig. 29. JOHANNESBURG, U. OF S. AFRICA
262°S, 28.0°E
OCTOBER 1949

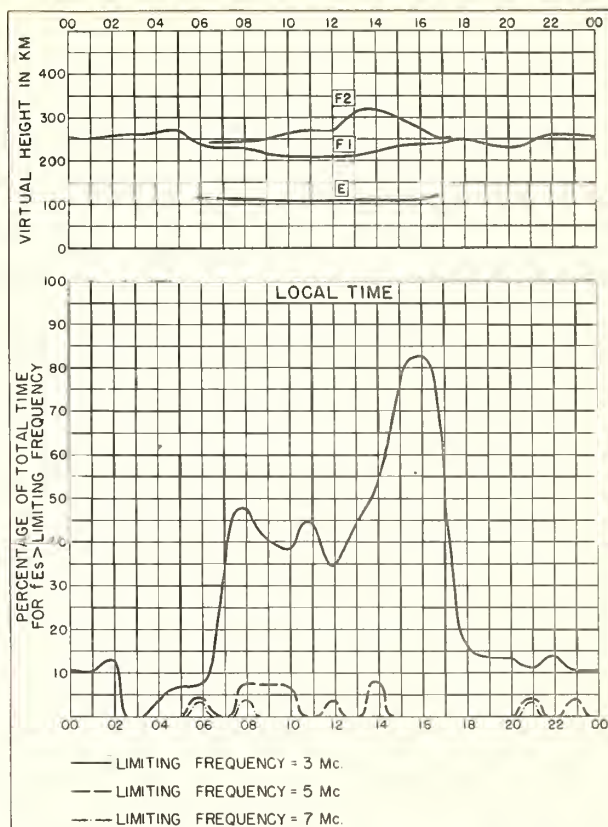


Fig. 30. JOHANNESBURG, U. OF S. AFRICA
OCTOBER 1949

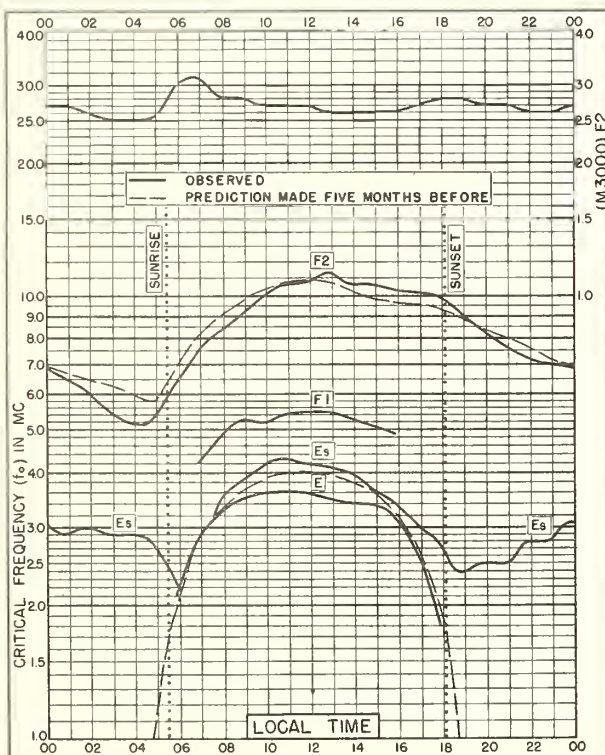


Fig. 31. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E
OCTOBER 1949

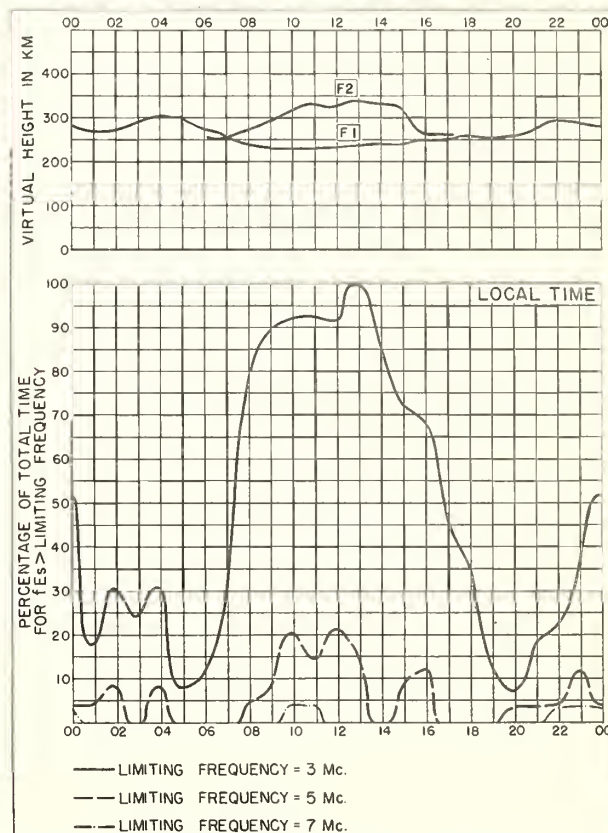


Fig. 32. WATHEROO, W. AUSTRALIA
OCTOBER 1949

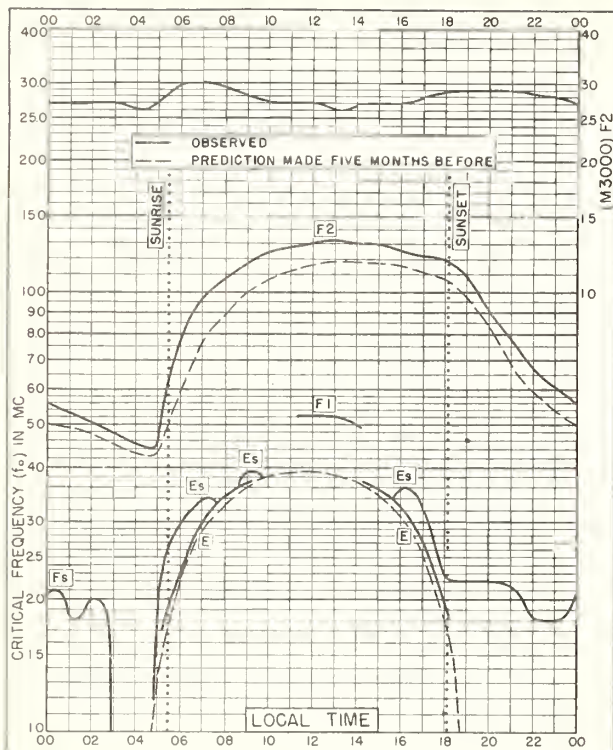


Fig 33 CAPETOWN, U OF S AFRICA
34°2'S, 18°3'E

OCTOBER 1949

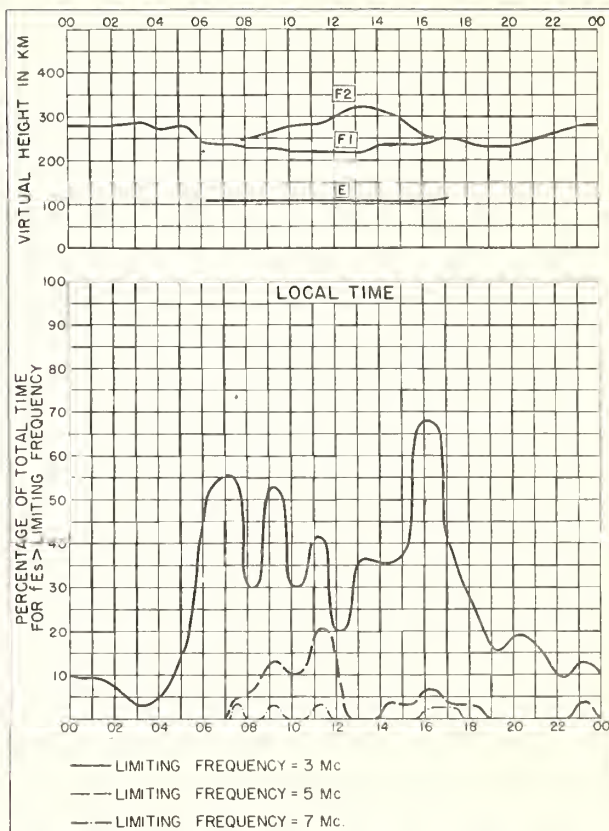


Fig 34. CAPETOWN, U OF S AFRICA OCTOBER 1949

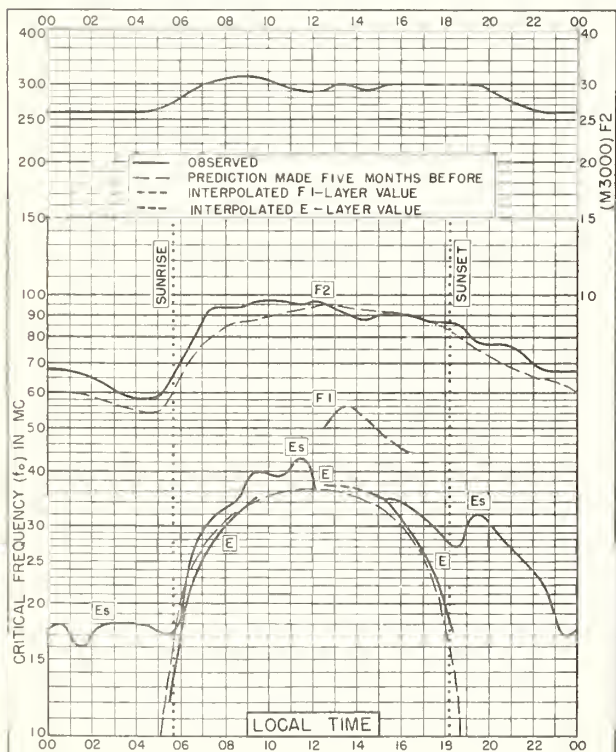


Fig 35 WAKKANAI, JAPAN
45°4'N, 141°7'E

SEPTEMBER 1949

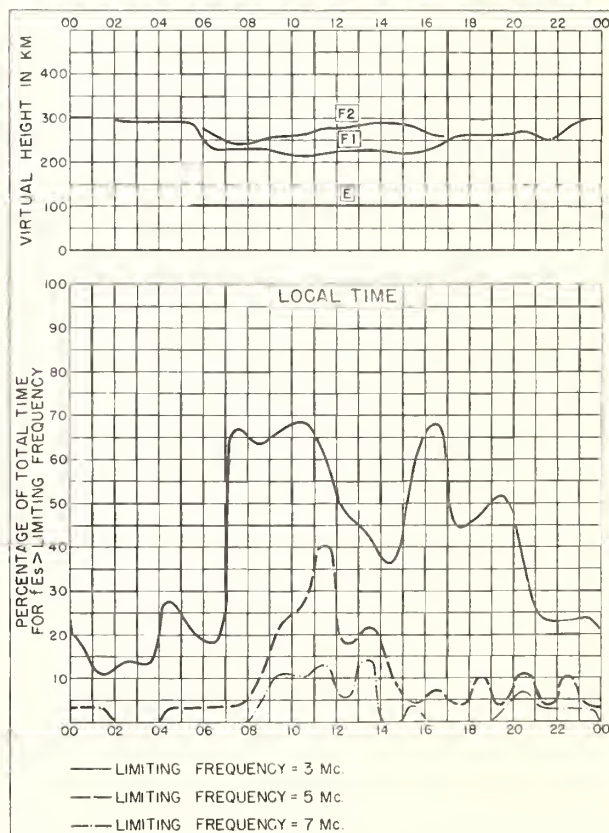


Fig 36. WAKKANAI, JAPAN SEPTEMBER 1949

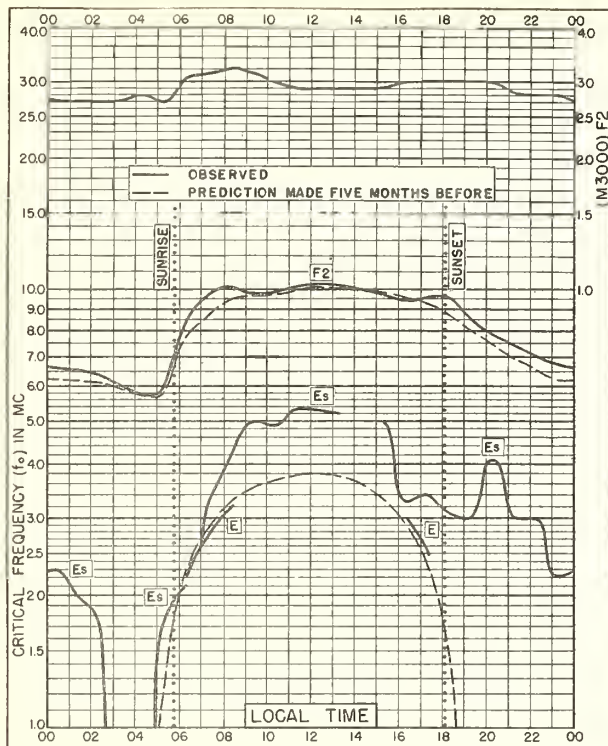


Fig. 37. FUKAURA, JAPAN
40.6°N, 139.9°E

SEPTEMBER 1949

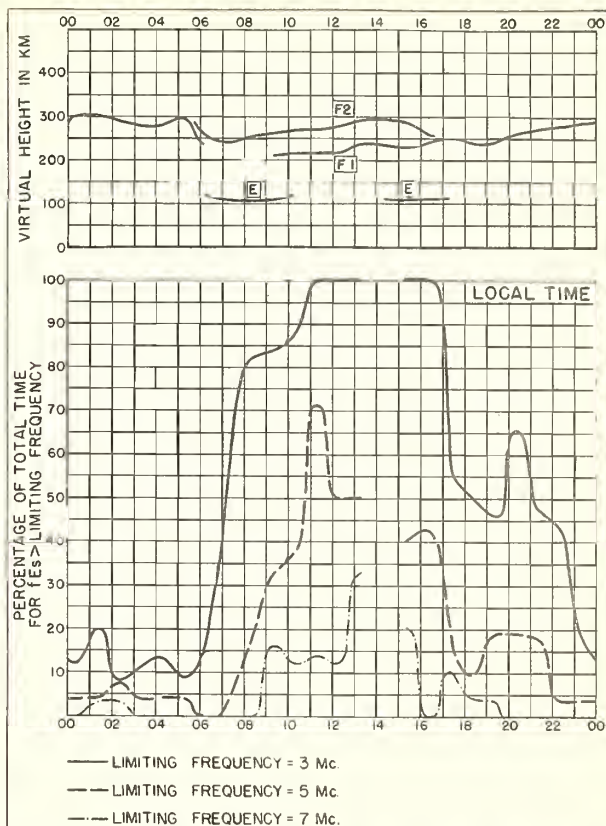


Fig. 38. FUKAURA, JAPAN

SEPTEMBER 1949

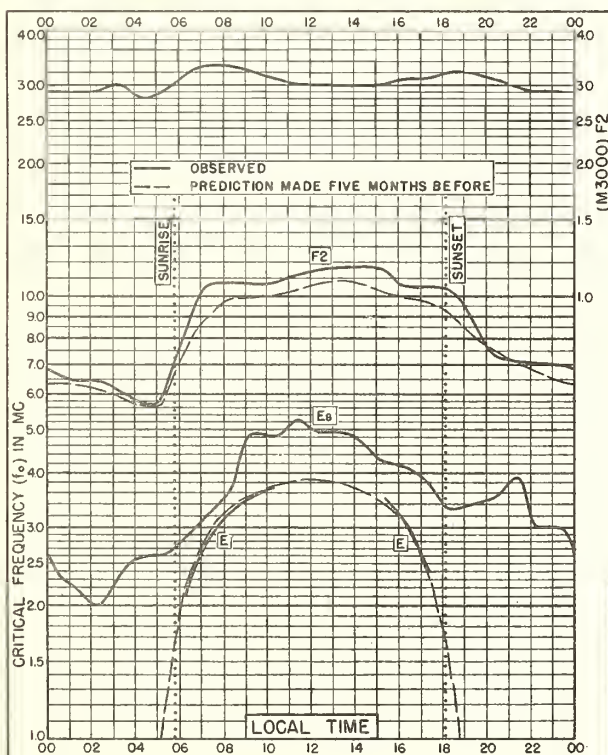


Fig. 39. SHIBATA, JAPAN
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SEPTEMBER 1949

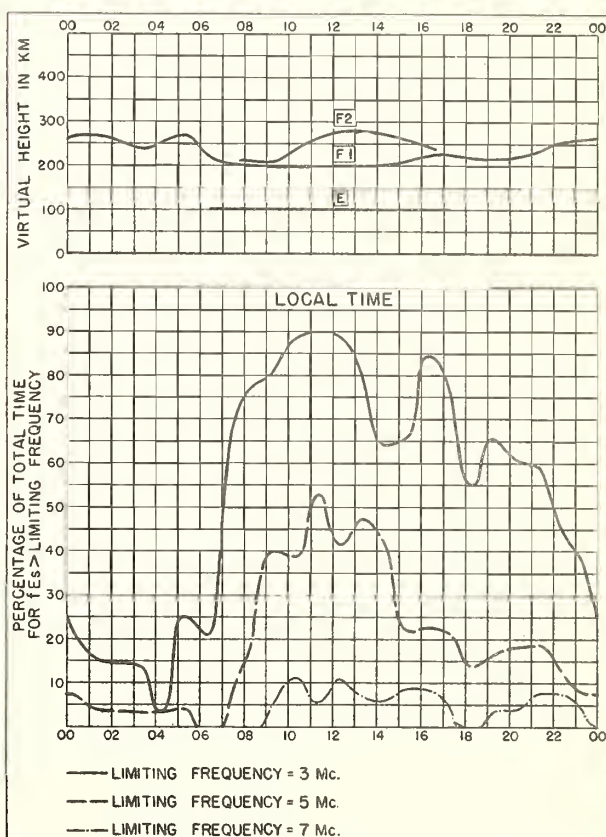


Fig. 40. SHIBATA, JAPAN

SEPTEMBER 1949

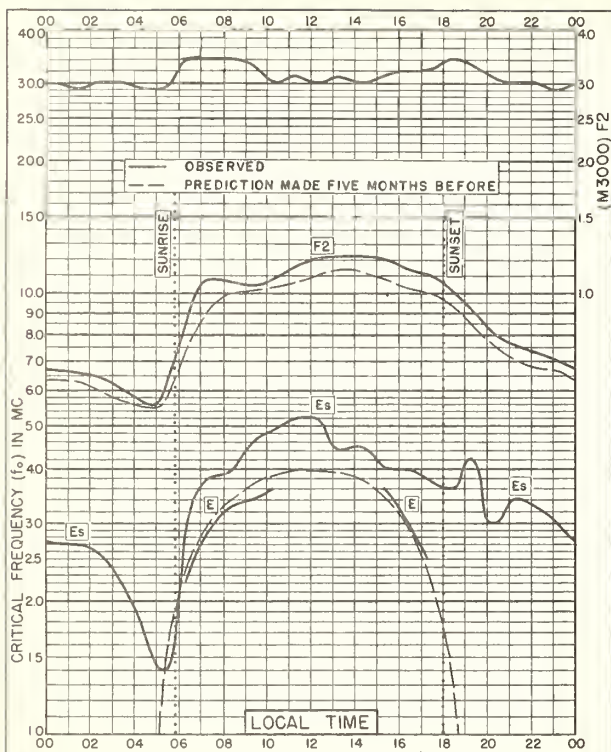


Fig. 41. TOKYO, JAPAN
35°N, 139°E

SEPTEMBER 1949

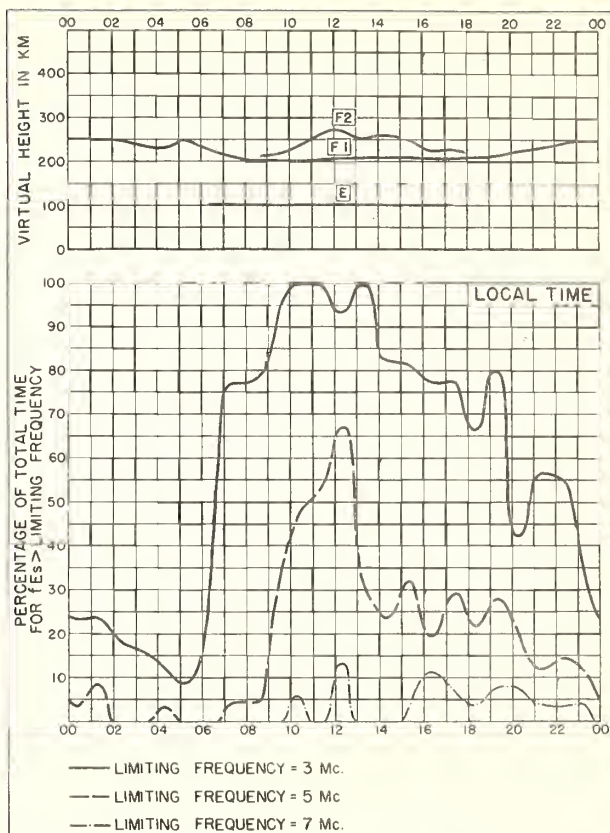


Fig. 42. TOKYO, JAPAN

SEPTEMBER 1949

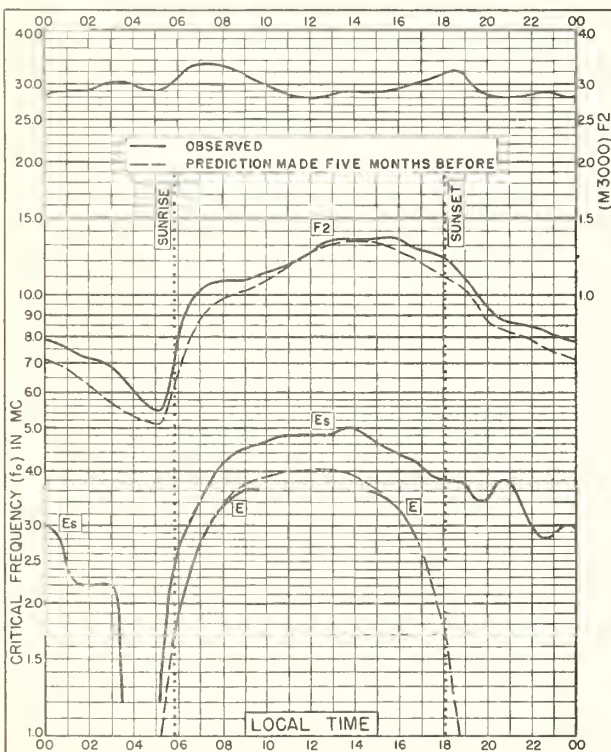


Fig. 43. YAMAGAWA, JAPAN
31.2°N, 130°6'E

SEPTEMBER 1949

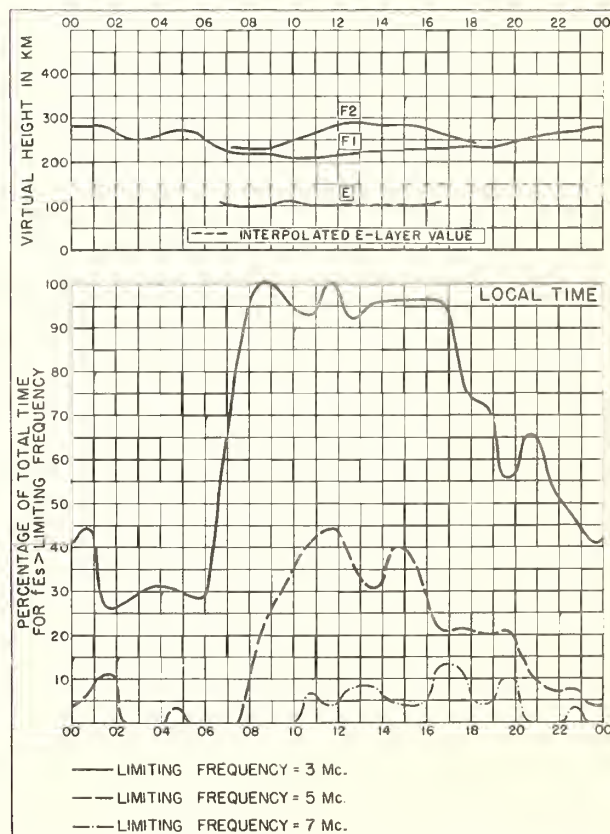
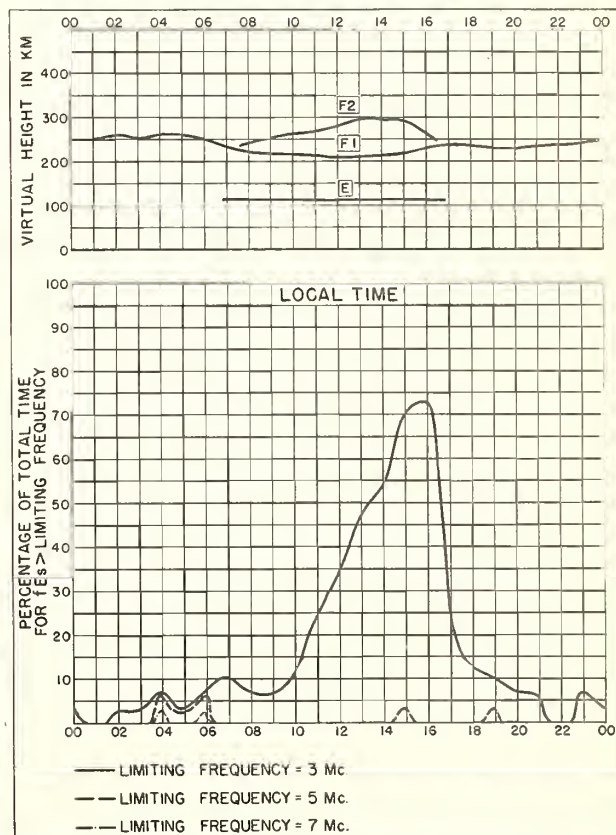
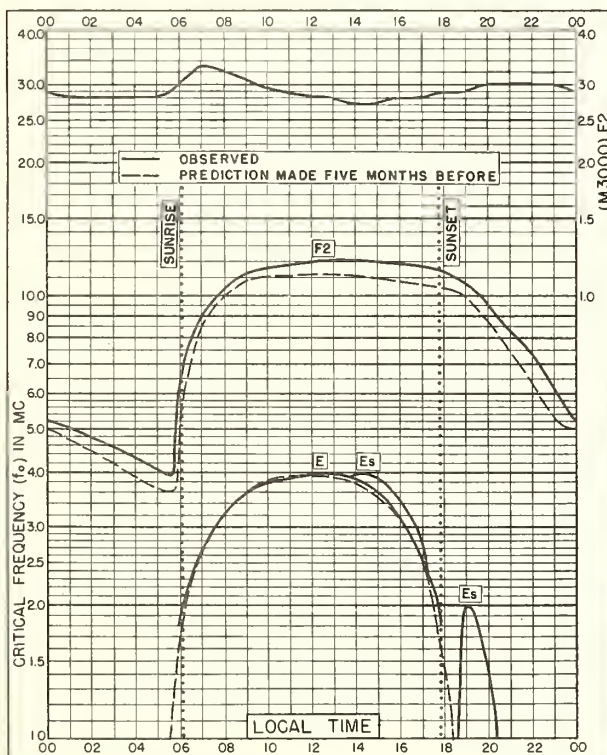
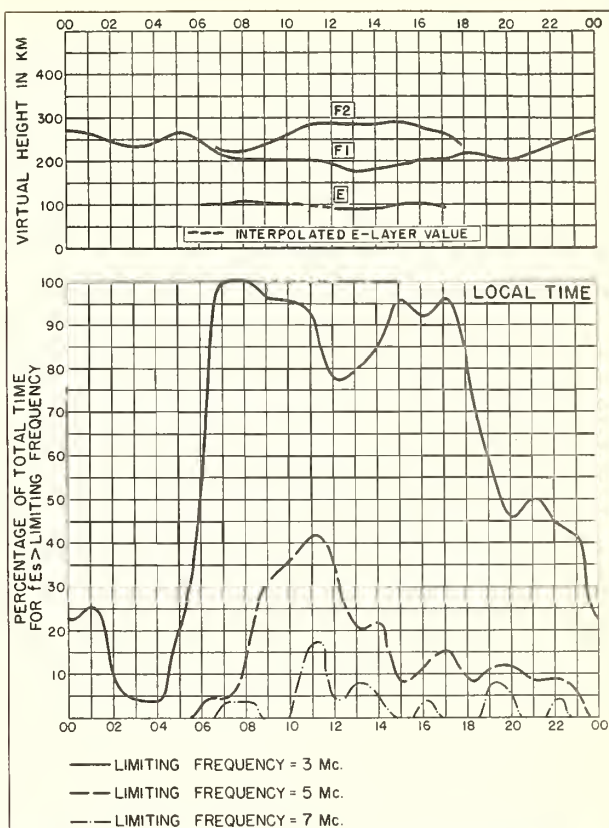
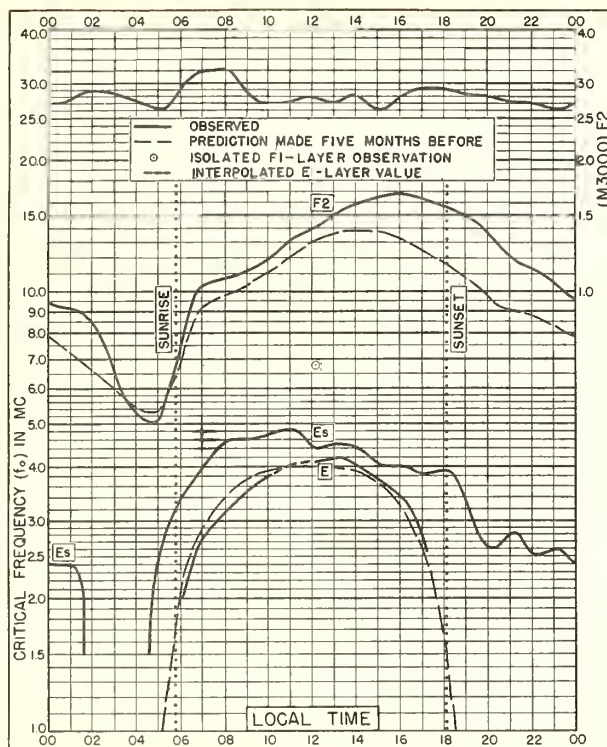


Fig. 44. YAMAGAWA, JAPAN

SEPTEMBER 1949



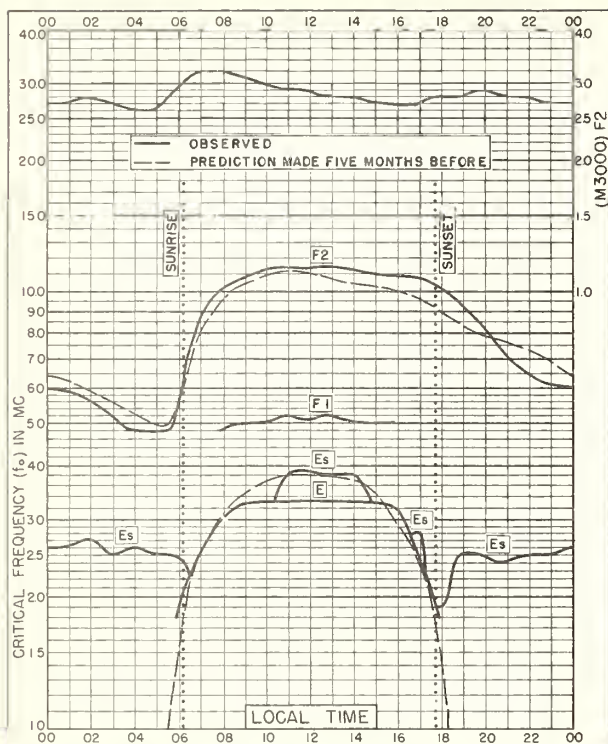


Fig. 49. WATHEROO W. AUSTRALIA

30.3°S, 115.9°E

SEPTEMBER 1949

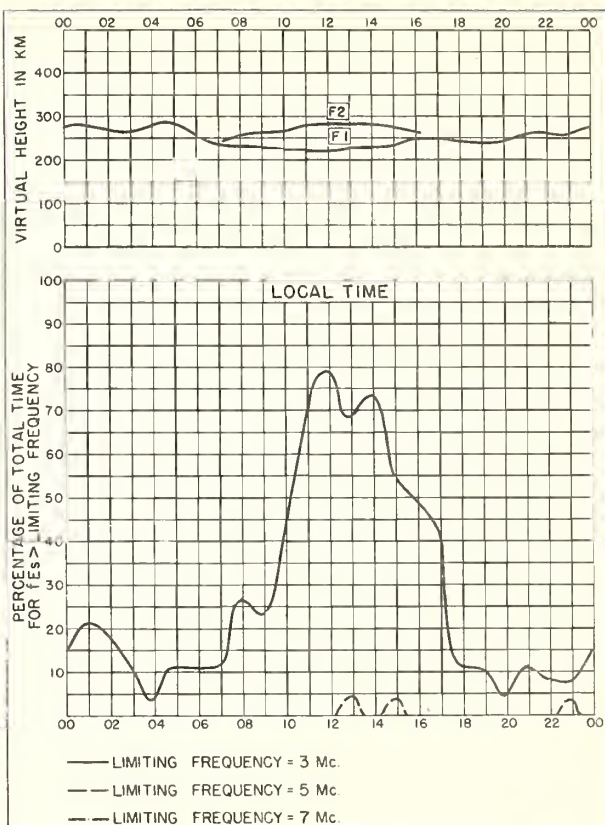


Fig. 50. WATHEROO, W. AUSTRALIA

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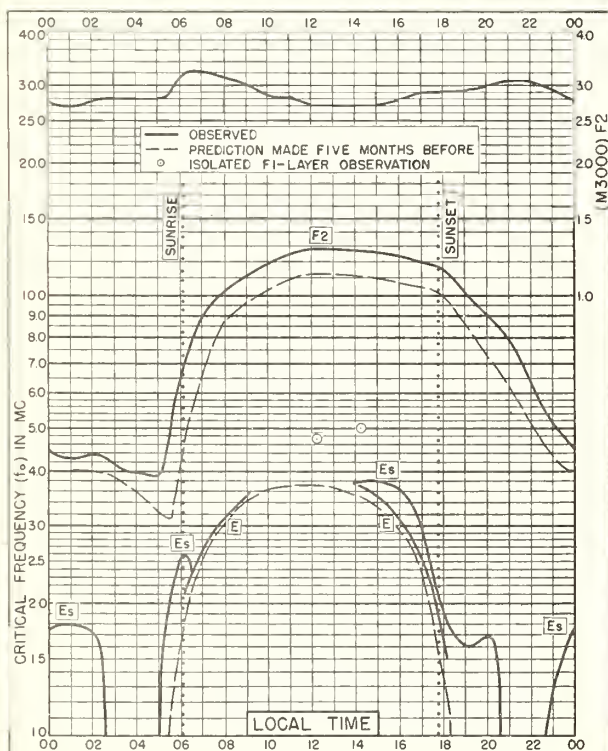


Fig. 51. CAPETOWN, U. OF S. AFRICA

34.2°S, 18.3°E

SEPTEMBER 1949

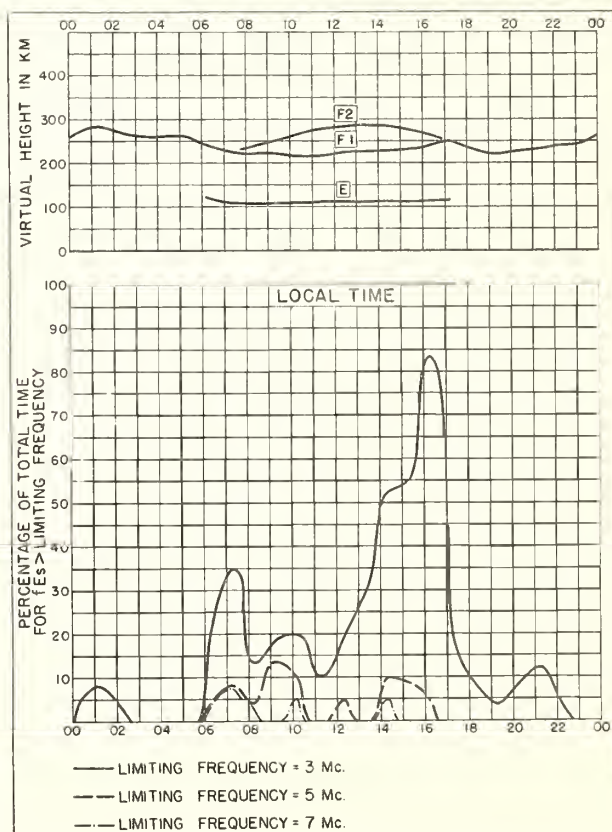


Fig. 52. CAPETOWN, U. OF S. AFRICA

SEPTEMBER 1949

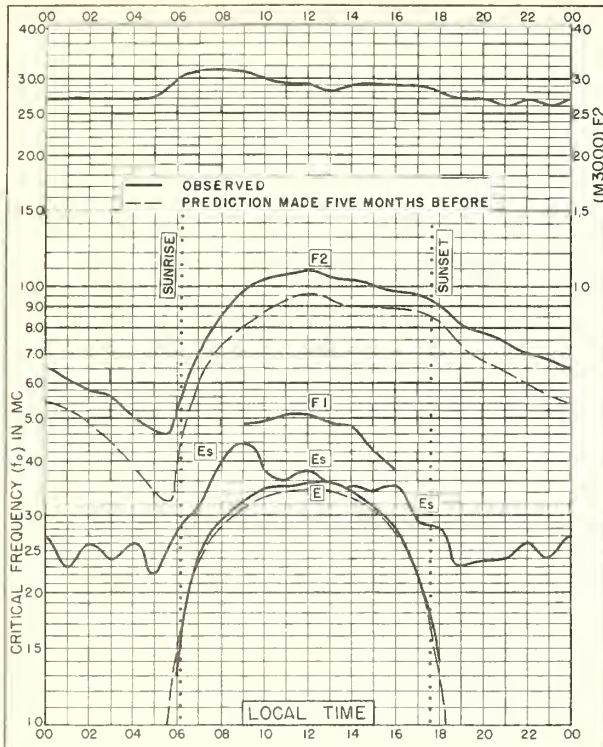


Fig 53. CHRISTCHURCH, N. Z.
43.5°S, 172.7°E SEPTEMBER 1949

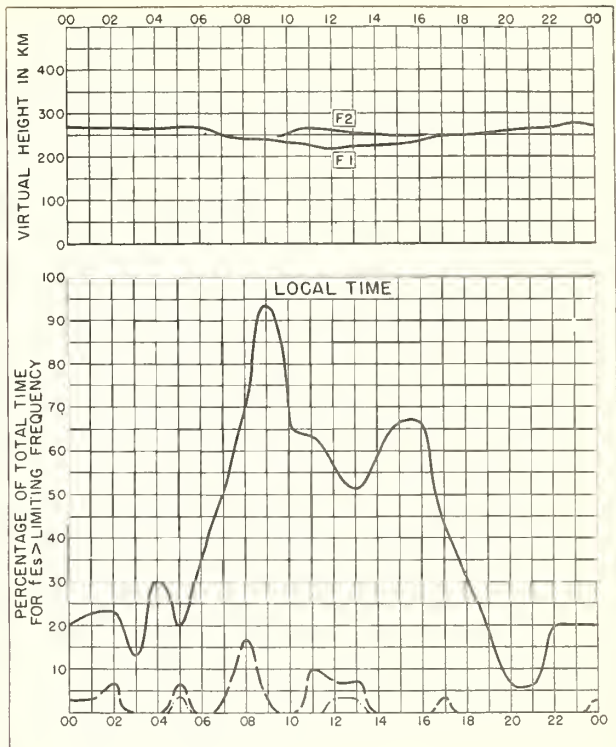


Fig 54. CHRISTCHURCH, N. Z. SEPTEMBER 1949

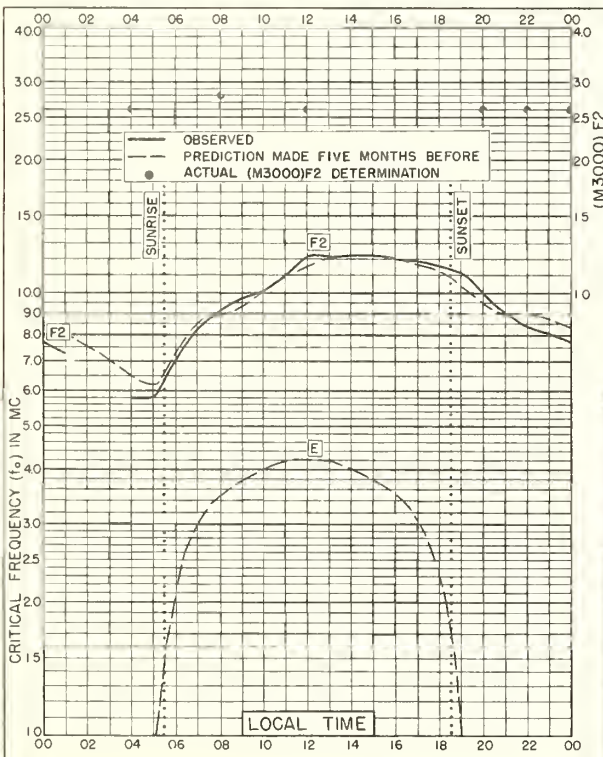


Fig 55. DELHI, INDIA
28.6°N, 77.1°E AUGUST 1949

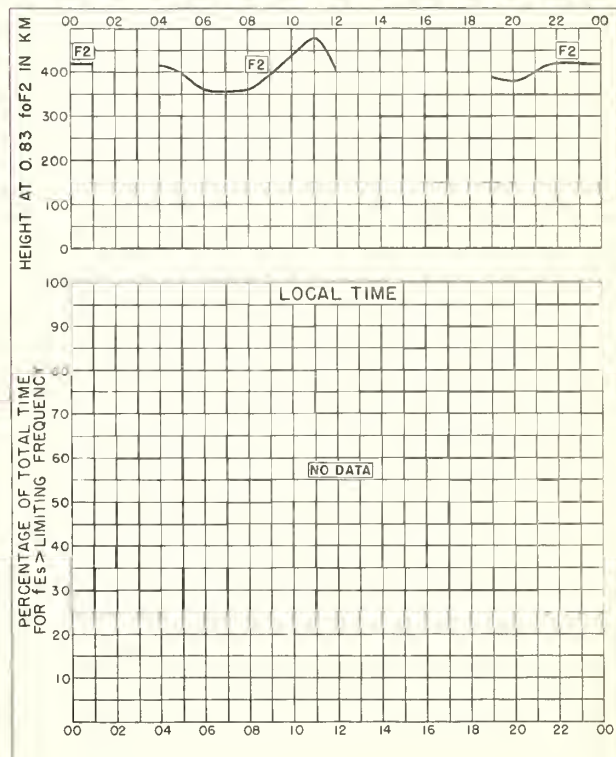


Fig 56. DELHI, INDIA AUGUST 1949

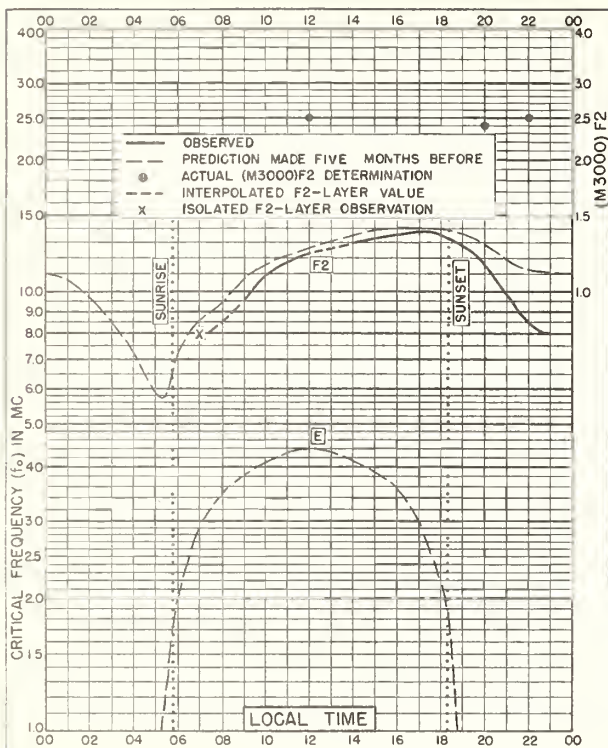


Fig. 57 BOMBAY, INDIA
19°0'N, 73°0'E

AUGUST 1949

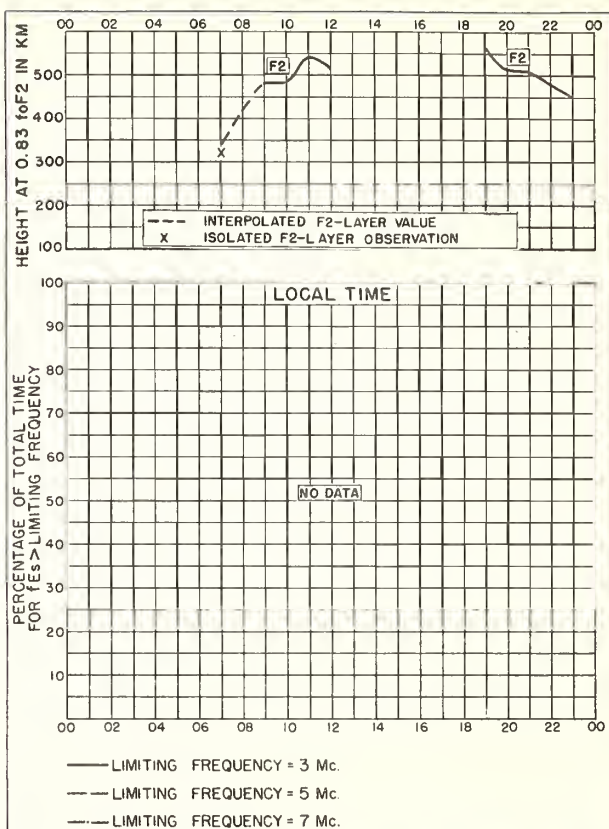


Fig. 58 BOMBAY, INDIA

AUGUST 1949

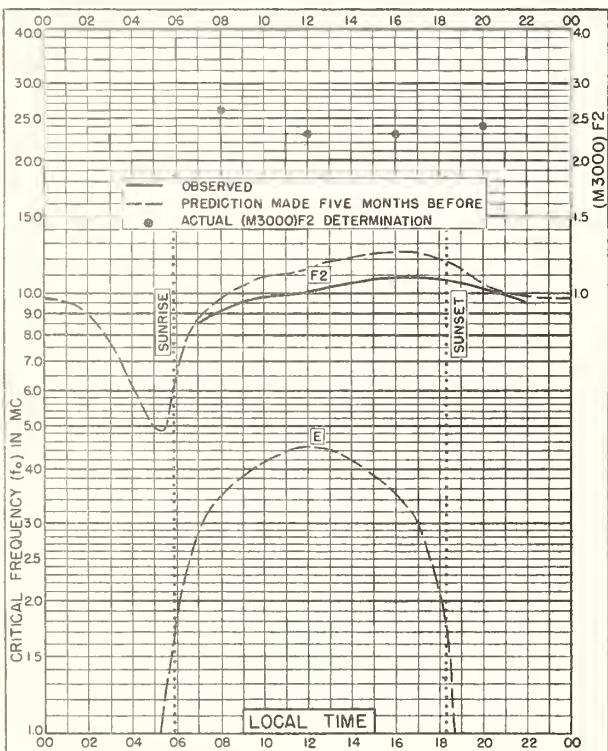


Fig. 59 MADRAS, INDIA
13°0'N, 80°2'E

AUGUST 1949

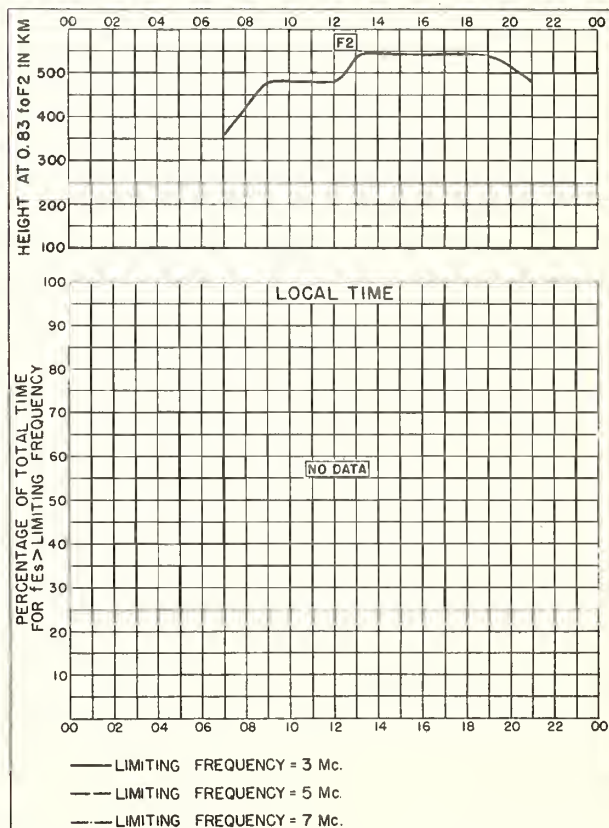


Fig. 60. MADRAS, INDIA

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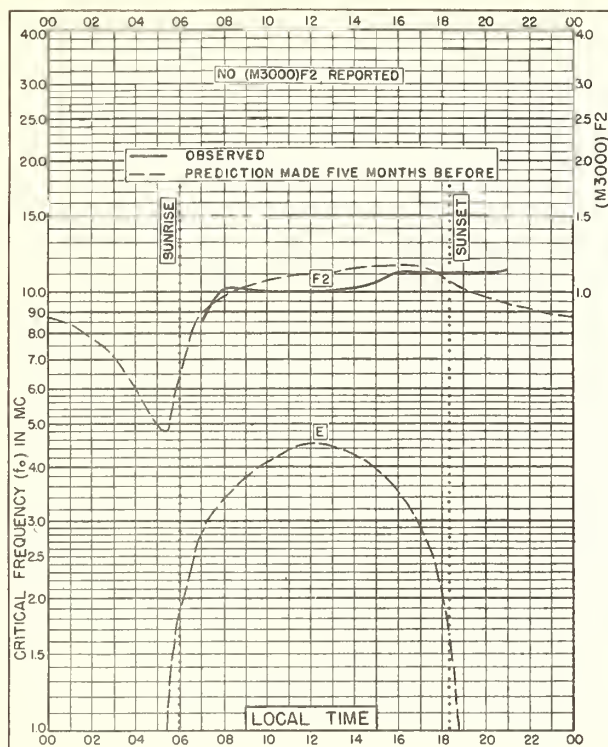


Fig. 61. TIRUCHIRAPALLI, INDIA
10.8°N, 78.8°E

AUGUST 1949

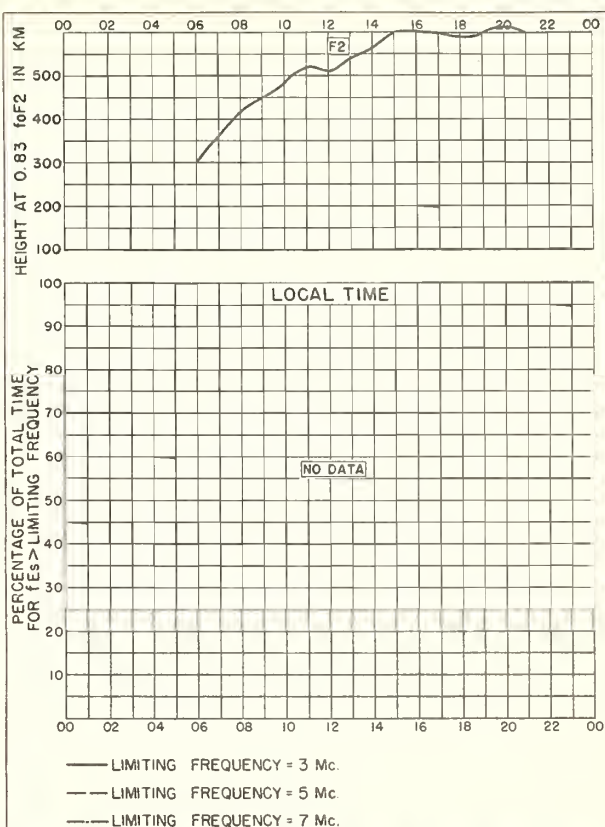


Fig. 62. TIRUCHIRAPALLI, INDIA

AUGUST 1949

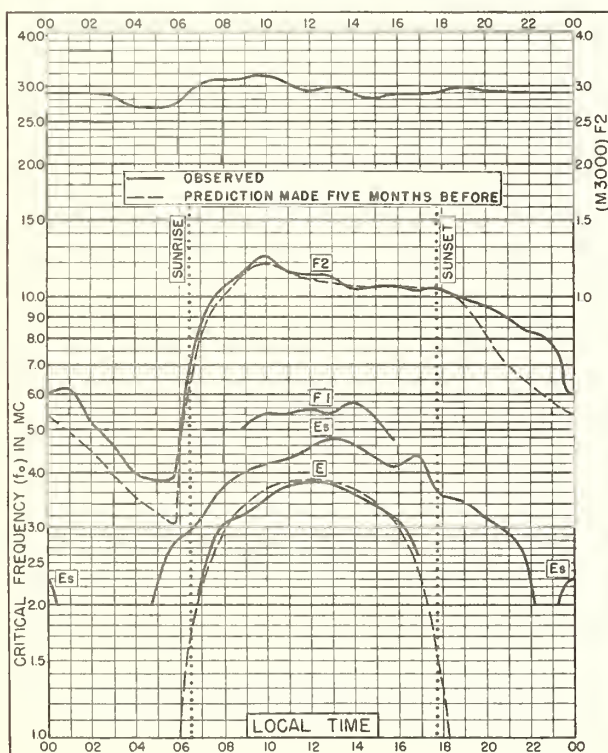


Fig. 63. RAROTONGA I.
21.3°S, 159.8°W

AUGUST 1949

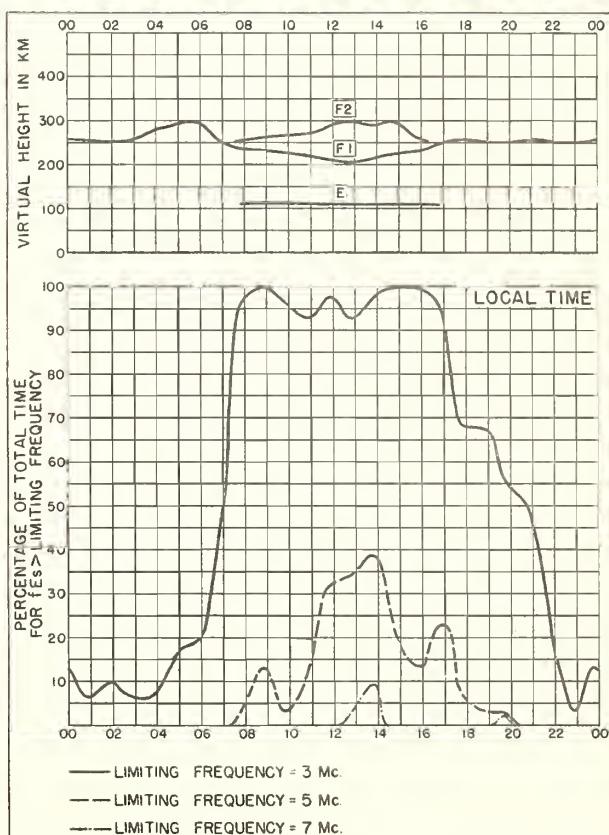


Fig. 64. RAROTONGA I.

AUGUST 1949

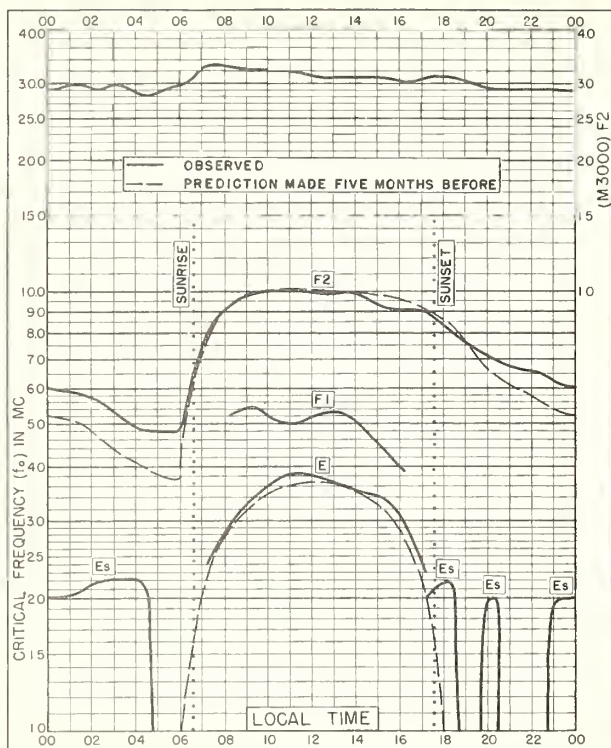


Fig. 65. BRISBANE, AUSTRALIA
27.5°S, 153.0°E

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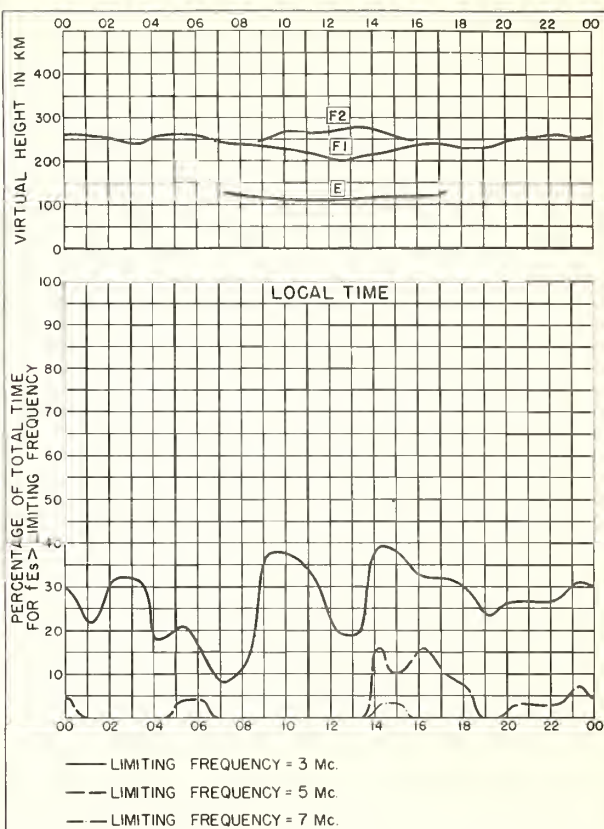


Fig. 66. BRISBANE, AUSTRALIA

AUGUST 1949

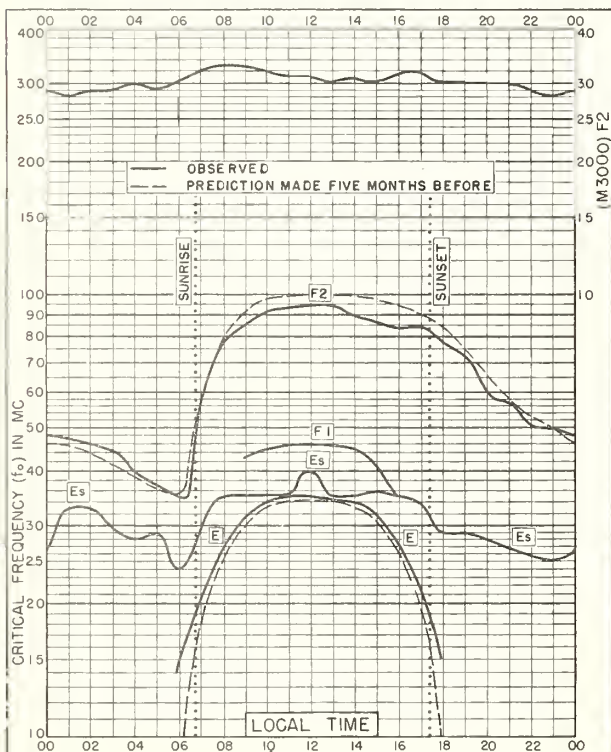


Fig. 67. CANBERRA, AUSTRALIA
35.3°S, 149.0°E

AUGUST 1949

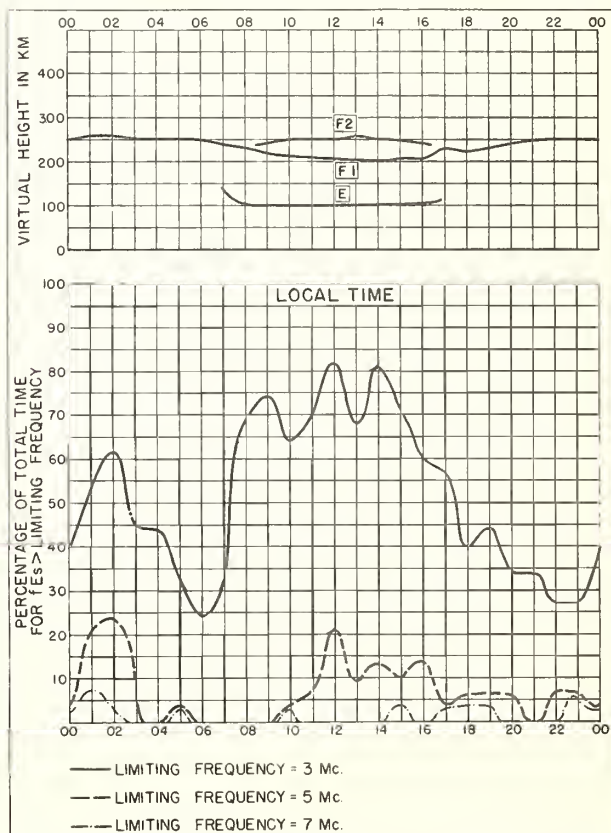


Fig. 68. CANBERRA, AUSTRALIA

AUGUST 1949

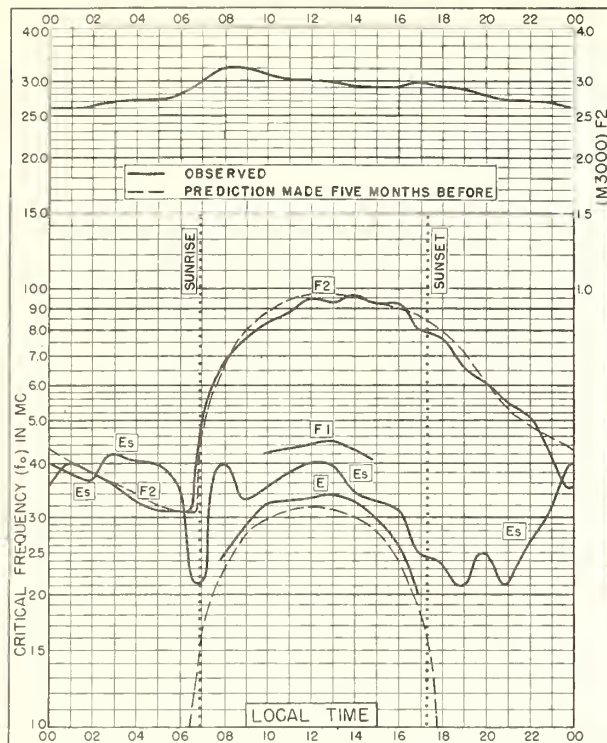


Fig 69. HOBART, TASMANIA
42° 8'S, 147.4°E

AUGUST 1949

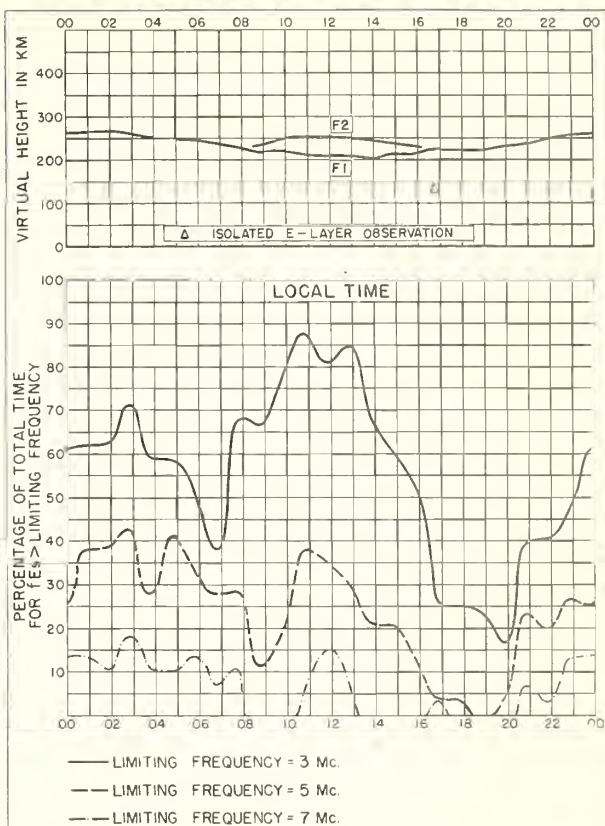


Fig 70. HOBART, TASMANIA

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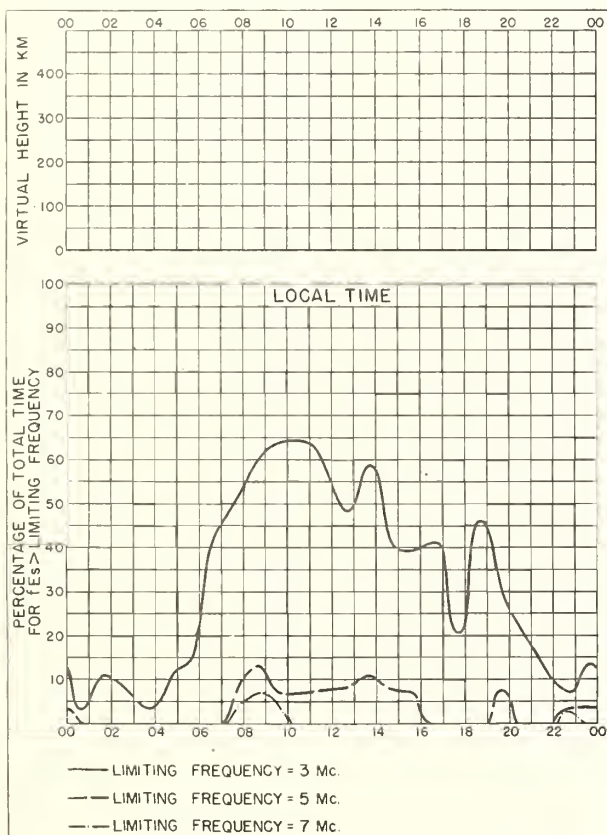


Fig 71. OSLO, NORWAY (60.0°N, 11.0°E)

MAY 1949

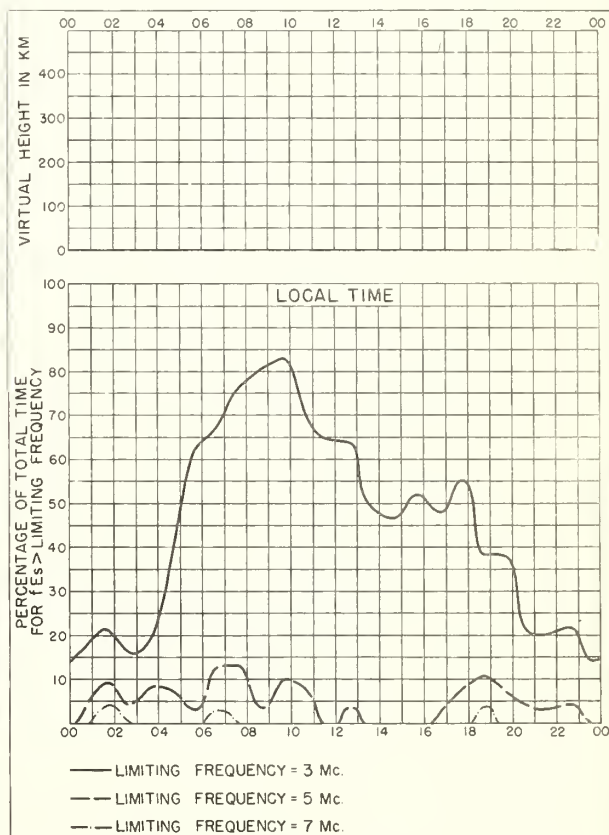


Fig 72. OSLO, NORWAY (60.0°N, 11.0°E)

JUNE 1949

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| August 1949 | 16 | 61 |
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| September 1949 | 14 | 56 |
| Trinidad, British West Indies | | |
| November 1949 | 12 | 50 |
| Wakkanai, Japan | | |
| September 1949 | 13 | 54 |
| Washington, D. C. | | |
| December 1949 | 11 | 46 |
| Watheroo, W. Australia | | |
| October 1949 | 13 | 53 |
| September 1949 | 15 | 58 |
| White Sands, New Mexico | | |
| November 1949 | 11 | 48 |
| Yamagawa, Japan | | |
| September 1949 | 14 | 56 |

CRPL and IRPL Reports

[A list of CRPL Section Reports is available from the Central Radio Propagation Laboratory upon request]

Daily:

Radio disturbance warnings, every half hour from broadcast station WWV of the National Bureau of Standards. Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:

CRPL-J. Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL-Ja. Semimonthly Frequency Revision Factors for CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL-D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Navy, DNC-13-1 (), monthly supplements to DNC-13-1.)

CRPL-F. Ionospheric Data.

Quarterly:

*IRPL-A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.

*IRPL-H. Frequency Guide for Operating Personnel.

Circulars of the National Bureau of Standards:

NBS Circular 462. Ionospheric Radio Propagation.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

IRPL-C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL-G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.

IRPL-R. Nonscheduled reports:

R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.

R5. Criteria for Ionospheric Storminess.

R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.

R7. Second Report on Experimental Studies of Ionospheric Propagation as Applied to the Loran System.

R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.

R10. A Proposal for the Use of Rockets for the Study of the Ionosphere.

R11. A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics.

R12. Short Time Variations in Ionospheric Characteristics.

R14. A Graphical Method for Calculating Ground Reflection Coefficients.

R15. Predicted Limits for F2-Layer Radio Transmission Throughout the Solar Cycle.

R17. Japanese Ionospheric Data—1943.

R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.

R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)

R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.

R24. Relations Between Band Width, Pulse Shape and Usefulness of Pulses in the Loran System.

R25. The Prediction of Solar Activity as a Basis for the Prediction of Radio Propagation Phenomena.

R26. The Ionosphere as a Measure of Solar Activity.

R27. Relationships Between Radio Propagation Disturbance and Central Meridian Passage of Sunspots Grouped by Distance From Center of Disc.

R30. Disturbance Rating in Values of IRPL Quality-Figure Scale from A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.

R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.

R33. Ionospheric Data on File at IRPL.

R34. The Interpretation of Recorded Values of fEs .

R35. Comparison of Percentage of Total Time of Second-Multiple Es Reflections and That of fEs in Excess of 3 Mc.

IRPL-T. Reports on tropospheric propagation:

T1. Radar operation and weather. (Superseded by JANP 101.)

T2. Radar coverage and weather. (Superseded by JANP 102.)

CRPL-T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG-5.)

*Items bearing this symbol are distributed only by U. S. Navy. They are issued under one cover as the DNC-14 series.

